

## HILARY BARTH, PH.D.

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### ACADEMIC APPOINTMENTS

<i>Professor</i> , Department of Psychology, Wesleyan University	2019-
<i>Associate Professor</i> , Department of Psychology, Wesleyan University	2012-2019
<i>Assistant Professor</i> , Department of Psychology, Wesleyan University	2005-2012
<i>Research Associate</i> , Department of Psychology, Harvard University	2004-2005
<i>Visiting Assistant Professor</i> , Department of Psychology, Wellesley College	2004-2005
<i>Postdoctoral Fellow</i> , Department of Psychology, Harvard University	2002-2004

### EDUCATION

Postdoctoral training, Laboratory for Developmental Studies Department of Psychology, Harvard University	2002-2005
Ph.D. in Cognitive Neuroscience Department of Brain & Cognitive Sciences, MIT	1996-2002
A.B. <i>magna cum laude</i> in Psychology, Neural/Behavioral Sciences concentration Department of Psychology, Bryn Mawr College	1992-1996

### EXTERNAL FUNDING

#### Major grants

• PI, NSF Award DRL-1920445 (\$1,091,303 total) <i>Digit dependence in numerical magnitude judgments</i> (with A. Patalano, Wesleyan)	2019-2022
• PI, NSF Award DRL-1561214 (\$1,101,456 total to Wesleyan) <i>Collaborative proposal: Foundations of quantitative thought: Number, space, time, and probability</i> (with A. Patalano, Wesleyan, & S. Cordes, BC)	2016-2022
• PI, NSF CAREER Award DRL-0950252 (\$761,005 total) <i>Magnitude biases in mathematical cognition, learning, &amp; development</i>	2010-2016

#### Smaller grants and fellowships

• National Living Laboratory Partner Stipend (\$3000 direct)	2015-2016
• National Living Laboratory Educational Assistance (\$1000 direct)	2015-2016
• National Living Laboratory Stipend (\$3000 direct)	2014-2015
• National Living Laboratory Stipend (\$300 direct)	2013-2014
• Mattel Philanthropic Programs Play Research Grant (\$18,500 direct) <i>Understanding the power of play</i> (with A. Shusterman & E. Slusser, Wesleyan)	2011-2012
• Mellon Faculty Career Enhancement Summer Stipend Grant (\$7,500 direct)	2006
• Postdoctoral Fellowship, Nat'l Academy of Ed./Spencer Foundation (\$50,000 direct)	2003-2004
• Graduate Fellowship, Claire Booth Luce Program (\$25,000 direct)	1998-1999

## **PUBLICATIONS – Peer-reviewed empirical journal articles**

(Students in italics)

- Williams, K., Zax, A., Patalano, A.L., & **Barth, H.** (2021, in press). Left digit effects in numerical estimation across development. *Journal of Cognition & Development*.
- Xing, C., Zax, A., Taggart, J., Bass, I., George, E., & **Barth, H.** (2021, in press). Numerical estimation strategies are correlated with math ability in school-age children. *Cognitive Development*.
- Patalano, A.L., Williams, K., Weeks, G., Kayton, K., & **Barth, H.** (2021). The left digit effect in a complex judgment task: Evaluating hypothetical college applicants. *Journal of Behavioral Decision Making*. <https://doi.org/10.1002/bdm.2247>
- Brew, K., Clark, T., Feingold-Link, J., & **Barth, H.** (2021). Do demand characteristics contribute to minimal ingroup preferences? *Journal of Experimental Child Psychology* 204, 105043.
- Savelkouls, S., Williams, K., & **Barth, H.** (2020). Linguistic inversion and numerical estimation. *Journal of Numerical Cognition* 6, <https://doi.org/10.5964/jnc.v6i3.273>
- Williams, K., Paul, J., Zax, A., **Barth, H.**, & Patalano, A.L. (2020). Number line estimation and standardized test performance: The left digit effect does not predict SAT math score. *Brain & Behavior* 10, e01877.
- Williams, K., Zax, A., Reichelson, S., Patalano, A.L., & **Barth, H.** (2020). Developmental change in partition dependent resource allocation behavior. *Memory & Cognition* 48, 1007-1014.
- Patalano, A.L., Zax, A., Williams, K., Mathias, L., Cordes, S., & **Barth, H.** (2020). Intuitive symbolic magnitude estimation and decision making under risk in adults. *Cognitive Psychology* 118, 101273.
- Xing, C., Williams, K., Hom, J., Kandhur, M., Owoyemi, P., Paul, J., Shackney, E., Alexander, R., & **Barth, H.** (2020). Partition dependence in financial aid distribution to income categories: An experimental replication and extension. *PLoSone* 15, e0231135
- Zax, A., Williams, K., Patalano, A.L., Slusser, E.B., Cordes, S., & **Barth, H.** (2019). What do biased estimates tell us about cognitive processing? Spatial judgments as proportion estimation. *Journal of Cognition and Development* 20, 702-728.
- Zax, A., Slusser, E.B., & **Barth, H.** (2019). Spontaneous partitioning and proportion estimation in children's numerical judgments. *Journal of Experimental Child Psychology*, 185, 71-94.
- Xing, C., Paul, J., Zax, A., Cordes, S., **Barth, H.**, & Patalano, A.L. (2019). Probability-range effects on probability distortion in a gambling task. *Acta Psychologica* 197, 39-51.
- Reichelson, S., Zax, A., Patalano, A.L., & **Barth, H.** (2019). Partition dependence in development: Are children's decisions shaped by the arbitrary grouping of options? *Quarterly Journal of Experimental Psychology* 72, 1029-1036.
- Lai, M., Zax, A., & **Barth, H.** (2018). Digit identity influences numerical estimation in children and adults. *Developmental Science* 21, e12657.
- Reichelson, S., Zax, A., Bass, I., Patalano, A.L., & **Barth, H.** (2018). Partition dependence in consumer choice: Perceptual groupings do not reliably shape decisions. *Psychonomic Bulletin & Review* 25, 1178-1183.
- Slusser, E.B., & **Barth, H.** (2017). Intuitive proportion judgment in number-line estimation: Converging evidence from multiple tasks. *Journal of Experimental Child Psychology* 162, 181-198.
- McCrink, K., Shafto, P., & **Barth, H.** (2017). The relationship between non-symbolic multiplication and division in childhood. *Quarterly Journal of Experimental Psychology* 70, 686-702.
- **Barth, H.**, Slusser, E.B., Kanjlia, S., Garcia, J., Taggart, J., & Chase, E. (2016). How feedback improves children's numerical estimation. *Psychonomic Bulletin & Review* 23, 1198-1205.
- Schug, M.G., Shusterman, A., **Barth, H.**, & Patalano, A.L. (2016). Early group bias in the Faroe Islands: Cross-cultural variation in children's group-based reasoning. *Quarterly Journal of Experimental Psychology* 69, 1741-1751.
- Patalano, A.L., Saltiel, J., Machlin, L., & **Barth, H.** (2015). The role of numeracy and approximate number system acuity in predicting value and probability distortion. *Psychonomic Bulletin & Review* 22, 1820-1829.
- **Barth, H.**, Lesser, E., Taggart, J., & Slusser, E.B. (2015). Spatial estimation: A non-Bayesian alternative. *Developmental Science* 18, 853-862.

- **Barth, H., Bhandari, K., Garcia, J., MacDonald, K., & Chase, E.** (2014). Preschoolers trust novel members of accurate speakers' groups and judge them favorably. *Quarterly Journal of Experimental Psychology* 67, 872-883.
- **MacDonald, K., Schug, M.G., Chase, E., & Barth, H.** (2013). My people, right or wrong? Minimal group membership disrupts preschoolers' selective trust. *Cognitive Development* 28, 247-259.
- **Slusser, E.B., Santiago, R.T., & Barth, H.** (2013). Developmental change in numerical estimation. *Journal of Experimental Psychology: General* 142, 193-208.
- **Schug, M.G., Shusterman, A., Barth, H., & Patalano, A.L.** (2013). Minimal group membership influences children's responses to novel experiences with group members. *Developmental Science* 16, 47-55.
- **Sullivan, J., & Barth, H.** (2012). Active (not passive) spatial imagery primes temporal judgments. *Quarterly Journal of Experimental Psychology* 65, 1101-1109.
- **Sullivan, J., Juhasz, B., Slattery, T., & Barth, H.** (2011). Adults' number-line estimation strategies: evidence from eye movements. *Psychonomic Bulletin and Review* 18, 557-563.
- **Anderson, B.L., O'Vari, J., & Barth, H.** (2011). Non-Bayesian contour synthesis. *Current Biology* 21, 492-496.
- **Barth, H. & Paladino, A.M.** (2011). The development of numerical estimation: Evidence against a representational shift. *Developmental Science* 14, 125-135.
- **Bhandari, K., & Barth, H.** (2010). Show or tell: Testimony is sufficient to induce the curse of knowledge in three- and four-year-olds. *Quarterly Journal of Experimental Psychology* 63, 209-215.
- **Barth, H., Starr, A.B., & Sullivan, J.** (2009). Children's mappings of large number words to numerical magnitudes. *Cognitive Development* 24, 248-264.
- **Barth, H., Baron, A., Spelke, E.S., & Carey, S.** (2009). Children's multiplicative transformations of discrete and continuous quantities. *Journal of Experimental Child Psychology* 103, 441-454.
- **Barth, H.** (2008). Judgments of discrete and continuous quantity: An illusory Stroop effect. *Cognition* 109, 251-266.
- **Barth, H., Beckmann, L., & Spelke, E.S.** (2008). Nonsymbolic, approximate arithmetic in children: Evidence for abstract addition prior to instruction. *Developmental Psychology* 44, 1466-1477.
- **Cappelletti, M., Barth, H., Fregni, F., Spelke, E.S., & Pascual-Leone, A.** (2007). rTMS over the intraparietal sulcus disrupts numerosity processing. *Experimental Brain Research* 179, 631-642.
- **Barth, H., La Mont, K., Lipton, J., Dehaene, S., Kanwisher, N., & Spelke, E.S.** (2006). Non-symbolic arithmetic in adults and young children. *Cognition* 98, 199-222.
- **Barth, H., La Mont, K., Lipton, J., & Spelke, E.S.** (2005). Abstract number and arithmetic in preschool children. *Proceedings of the National Academy of Sciences* 102, 14116-14121.
- **Barth, H., Kanwisher, N., & Spelke, E.S.** (2003). The construction of large number representations in adults. *Cognition* 86, 201-221.
- **Anderson, B.L., & Barth, H.C.** (1999). Motion-based mechanisms of illusory contour formation. *Neuron* 24, 433-441.

#### **PUBLICATIONS – Book chapters, commentaries, reports**

*(Students in italics)*

- **Barth, H., & Shusterman, A.** (2021, in press). Numerical cognition needs more and better distinctions, not fewer. Commentary on Clarke & Beck. *Behavioral & Brain Sciences*.
- **Barth, H., Cordes, S., & Patalano, A.L.** (2018). Suboptimality in perceptual decision making and beyond. Commentary on Rahnev & Denison. *Behavioral & Brain Sciences*, 41.
- **Slusser, E.B., Shusterman, A., & Barth, H.** (2012). Understanding the power of play. Final research report to Mattel Corporation.
- **Barth, H., Slusser, E.B., Cohen, D., & Paladino, A.M.** (2011). A sense of proportion: Commentary on Opfer, Siegler, & Young. *Developmental Science* 14, 1205-1206.
- **Barth, H.** (2008). Do mental magnitudes form part of the foundation for natural number concepts? Don't count them out yet. Commentary on Rips, Asmuth, & Bloomfield. *Behavioral & Brain Sciences* 31, 644-645.

- Mordkoff, J. T., & **Barth, H.** (2001). Using pre-pulse inhibition to study attentional capture: a warning about pre-pulse correlations. In C. Folk and B. Gibson (Eds.), *Attraction, Distraction, and Action: Multiple Perspectives on Attentional Capture* (pp.177-190). Amsterdam: Elsevier.

### **CONFERENCE PRESENTATIONS (2007 – present only)**

*(Students in italics)*

- Vaidya, L., *Barragan, L., Delgado, S., Hammond, S., Litts, Montano, C., Newman, E., Ohiomah, S. A., Wolk, A., Eisen, S., Patalano, A.L. & Barth, H.* (accepted, 2021). Left digit effects in atypical number line estimation. Annual Meeting of the Psychonomic Society.
- Bondhus, C., Gwiazda, G., Williams, K., Kayton, K., Barth, H., & Patalano, A.L.* (accepted, 2021). Trial-based predictors of the left digit effect in number line estimation. Annual Meeting of the Psychonomic Society.
- Vaidya, L., Kayton, K., **Barth, H.**, & Patalano, A.L. (accepted, 2021). Test-retest reliability of the left digit effect in number line estimation. Annual Meeting of the Psychonomic Society.
- Gwiazda, G., Bondhus, C., Kayton, K., Barth, H., & Patalano, A.L.* (2021). Telling people about the left digit effect in number line estimation does not reduce the effect. Annual Meeting of the Association for Psychological Science (APS).
- Williams, K., Kayton, K., *Stenbaek, C., Green, J., Fischer, G., Barth, H., & Patalano, A.L.* (2021). Competitive summary feedback improves number line estimation accuracy but does not reduce the left digit effect. Annual Meeting of the Association for Psychological Science (APS).
- Vaidya, L., Eisen, S., *Barragan, L., Montano, C., Ohiomah, S. A., Wolk, A., Patalano, A.L. & Barth, H.* (2021). Left digit effect in atypical number line estimation. Biennial Meeting of the Society for Research in Child Development (SRCD). \*Virtual conference due to COVID-19.
- Stenbaek, C., Williams, K., & Barth, H., Patalano, A.L.* (2020). Summary accuracy feedback does not reduce the left digit effect in number line estimation. Annual Meeting of the Psychonomic Society. \*Virtual conference due to COVID-19.
- Weeks, G., Williams, K., Barth, H., & Patalano, A.L.* (2020). The left digit effect in a complex judgment task: Evaluating hypothetical college applicants. Annual Meeting of the Psychonomic Society. \*Virtual conference due to COVID-19.
- Hildebrandt, L., **Barth, H.**, Patalano, A.L., & Cordes, S. (2020). Central tendency effects in children's and adults' magnitude estimates. Annual Meeting of the Psychonomic Society. \*Virtual conference due to COVID-19.
- Vasquez, K., Williams, K., Patalano, A.L., & Barth, H.* (2020). Partition dependence in preschool years: Evidence from a single-choice task. Annual Meeting of the Eastern Psychological Association. \*Virtual conference due to COVID-19.
- Barth, H., Brew, K., Clark, T., & Feingold-Link, J.** (2019). Do demand characteristics play a role in the minimal ingroup paradigm? Talk presented at the Annual Meeting of the Psychonomic Society.
- Williams, K., Xing, C., & **Barth, H.** (2019). Endpoint reversal and digit dependence in numerical estimation. Annual Meeting of the Psychonomic Society.
- Bradley, K., Williams, K., Barth, H., & Patalano, A.L.* (2019). Accuracy feedback does not reduce the left digit effect in number line estimation. Annual Meeting of the Psychonomic Society.
- Williams, K., Zax, A., *Charles, S., & Barth, H.* (2019). The role of digit identity in 5- to 8-year-olds' numerical estimates. Biennial Meeting of the Cognitive Development Society (CDS).
- Hildebrandt, L., **Barth, H.**, Patalano, A.L., & Cordes, S. (2019). Context effects in children's numerical and temporal estimation. Biennial Meeting of the Cognitive Development Society (CDS).
- Brew, K., Clark, T., Feingold-Link, J., & Barth, H.* (2019). Do demand characteristics contribute to minimal ingroup bias? Biennial Meeting of the Cognitive Development Society (CDS).
- Barth, H.** (2019). Digit dependence in numerical estimation. Talk presented as part of symposium on typical and atypical numerical estimation. Annual Meeting of the Mathematical Cognition and Learning Society (MCLS).

- Xing, C., Williams, K., & **Barth, H.** (2019). Endpoint reversal and digit dependence in numerical estimation. Annual Meeting of the Mathematical Cognition and Learning Society (MCLS).
- Savelkouls, S., Williams, K., & **Barth, H.** (2019). Linguistic influences on number line estimation: Digit identity and inversion effects. Annual Meeting of the Mathematical Cognition and Learning Society (MCLS).
- Williams, K., Xing, C., *Clark, T., Bhandari, E., & Barth, H.* (2019). Gender differences in digit dependence in numerical estimation. Biennial Meeting of the Society for Research in Child Development (SRCD).
- Xing, C., Zax, A., *George, E., Taggart, J., Bass, I., & Barth, H.* (2019). Numerical estimation strategies are correlated with math ability in school-age children. Biennial Meeting of the Society for Research in Child Development (SRCD).
- Chelmow, J., & Barth, H.* (2019). How do preschoolers replicate proportions? Annual Meeting of the Eastern Psychological Association.
- Xing, C., Williams, K., *Hom, J., Kandlur, M., Owoyemi, P., Paul, J., Shackney, E., Peters, R., & Barth, H.* (2019). Partition dependence in financial aid resource allocations. Annual Meeting of the Eastern Psychological Association.
- Barth, H.** (2018). Leftmost digits strongly influence numerical estimates. Talk presented at the Annual Meeting of the Psychonomic Society.
- Xing, C., Zax, A., *Paul, J., Cordes, S., Barth, H., & Patalano, A.* (2018). Reevaluating the role of context in probability distortion. Poster presented at the Annual Meeting of the Psychonomic Society.
- Paul, J., Williams, K., Zax, A., Patalano, A., & Barth, H.* (2018). Individual differences in number line estimation performance: The left digit effect and standardized test scores. Poster presented at the Annual Meeting of the Psychonomic Society.
- Reichelsson, S., Zax, A., Williams, K., Patalano, A., & Barth, H.* (2018). Partition dependence in children's and adults' resource allocation decisions. Poster presented at the Annual Meeting of the Psychonomic Society.
- Barth, H.,** Cordes, S., & Patalano, A.L. (2018). When do behavioral data provide evidence of Bayesian cognitive processing? Talk presented at Psychonomics International meeting, Amsterdam, NL.
- Xing, C., Zax, A., *Paul, J., Cordes, S., Barth, H., & Patalano, A.* (2017). The role of context and numeracy in probability distortion. Poster presented at the 58<sup>th</sup> Annual Meeting of the Psychonomic Society.
- Zax, A., *Lai, M., & Barth, H.* (2017). Digit identity strongly influences numerical estimates in adults and children. Meeting of the Cognitive Development Society.
- Xing, C., Zax, A., *George, E., Taggart, J., Bass, I., & Barth, H.* (2017). Proportion estimation strategy in number line estimation and non-verbal numerical acuity correlate with math ability in 6- to 8-year-olds. Meeting of the Cognitive Development Society.
- Hom, J., Kandlur, M., Owoyemi, P., Paul, J., Shackney, E., Peters, R., & Barth, H.* (2017). Partition dependence in financial aid distribution to income categories. Annual Meeting of the New England Psychological Association (NEPA).
- Barth, H.** (2017). Do Bayesian cognitive processes create our biased estimates? Talk presented as part of the *Spatial Cognition Across Development* Paper Session at the Biennial Meeting of the Society for Research in Child Development (SRCD).
- Zax, A., Slusser, E.B., & **Barth, H.** (2017). Quantitative models of proportion estimation explain numerical estimation with and without anchors. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD).
- Lai, M., Zax, A., & Barth, H.* (2017). Do holistic number representations form adults' and children's numerical estimates? Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD).
- Reichelsson, S., Zax, A., Bass, I., Patalano, A., & Barth, H.* (2017). Partition dependence in children's and adults' decision making. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD).
- Barth, H.** (2016). Do biases in quantity judgments reveal optimal cognitive processing? Annual Meeting of the Psychonomic Society.
- Reichelsson, S., Barth, H., Bass, I., Zax, A., & Patalano, A.* (2016). Does the arbitrary grouping of physical options influence children's and adults' choices? Meeting of the Psychonomic Society.

- Barth, H.** (2016). Research toys as educational tools. Presentation for/participation in workshop “Live from the Living Lab: Tools to maximize parent engagement,” organized by the National Living Laboratory Initiative, Association for Children’s Museums InterActivity Conference, 2016.
- Reichelson, S., Barth, H., Bass, I., Taggart, J., Zax, A., Lesser, E., & Patalano, A.* (2016). Does the arbitrary grouping of physical options influence children’s and adults’ choices? Meeting of the Eastern Psychological Association.
- Barth, H., Lesser, E., Taggart, J., Slusser, E.B., Bass, I., Reichelson, S., & Schwab, A.** (2015). Intuitive proportional reasoning and development in spatial memory. Conference abstract, Meeting of the Cognitive Development Society.
- Barth, H., Lesser, E., Taggart, J., Bass, I., & Slusser, E.B.** (2015). A non-Bayesian explanation of adults’ and children’s biased spatial estimates. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Roberts, J., Taggart, J., Bass, I., & Barth, H.* (2015). Minimal group membership and children’s ideas of fairness and equality. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Barth, H., Taggart, J., Bass, I., & George, E.** (2015). Links between lab-based measures of numerical competence and TEMA scores. Conference abstract, National Council of Teachers of Mathematics (NCTM) Research Conference.
- Barth, H., Lesser, E., Taggart, J., Bass, I., & Slusser, E.B.** (2015). Non-Bayesian explanations of spatial bias. Conference abstract, International Convention of Psychological Science (ICPS).
- Roberts, J., Taggart, J., & Barth, H.* (2014). Influence of minimal group membership on children’s ideas of equality. Conference abstract, Annual Meeting of the Eastern Psychological Association.
- Barth, H.** (2014). Novel explanations of developmental change in numerical estimation. Discussion session, National Council of Teachers of Mathematics (NCTM) Research Conference.
- McCrink, K., Barth, H.* (2013). Non-symbolic multiplication, division and inversion in young children. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Slusser, E., Chase, E., Berkowitz, T., George, E., Swee, M., Cho, D., Barth, H., & Shusterman, A.* (2013). The power of play: Promoting preschoolers’ social and numerical development through independent play with toys. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Barth, H., George, E., & Taggart, J.** (2013). An investigation of numerical estimation, numerical acuity, and math ability. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Patalano, A., Barth, H., Saltiel, J., Kaplan, L., & Machlin, L.* (2012). Individual probability weighting patterns over time and across probability formats. Conference abstract, Meeting of the Society for Judgment and Decision Making.
- Barth, H.** (2011). Proportional reasoning in number-line estimation. Symposium: *New perspectives on developmental change in numerical estimation*, Meeting of the Cognitive Development Society.
- Barth, H., Kanjlia, S., Slusser, E., Garcia, J., & Chase, E.** (2011). Proportional reasoning and children’s number-line estimation: The role of feedback. Conference abstract, Meeting of the Cognitive Development Society.
- Slusser, E., Borden, A., Seiden, M., Barth, H., & Shusterman, A.* (2011). Drawing comparisons across children’s performance on numerical and proportion estimation tasks. Conference abstract, Meeting of the Cognitive Development Society.
- Barth, H., Garcia, J., Slusser, E., MacDonald, K., Acheampong, A., Kanjlia, S., & Santiago, R.** (2011). Proportional reasoning shapes children’s number-line estimates. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Slusser, E., MacDonald, K., & Barth, H.* (2011). Converging evidence for a proportion-judgment account of numerical estimation: evaluating performance on two types of number-line tasks. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- MacDonald, K., Schug, M.G., & Barth, H.* (2011). My people, right or wrong? Minimal group membership disrupts children’s selective trust in testimony. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Schug, M.G., Shusterman, A., Barth, H., & Patalano, A.* (2011). Early group bias and cultural context: minimal group membership influences information processing in two societies.

- Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Slusser, E., *Garcia, J., MacDonald, K., Acheampong, A., Kanjlia, S., & Santiago, R., & Barth, H.* (2011). Number-line estimation tasks reflect reasoning about proportionality and numerical magnitude. Conference abstract, Meeting of the Jean Piaget Society.
- Slusser, E., *Garcia, J., MacDonald, K., Acheampong, A., Kanjlia, S., & Santiago, R., & Barth, H.* (2011). Evidence that proportion-judgment models explicate children's performance on number-line estimation tasks. Conference abstract, Meeting of the Eastern Psychological Association.
- Barth, H., Paladino, A., & Sullivan, J.** (2009). Developmental continuity in numerical estimation: A proportion-judgment account. Conference abstract, Annual Meeting of the Psychonomic Society.
- Barth, H., Paladino, A., & Sullivan, J.** (2009). Developmental continuity in numerical estimation. Conference abstract, Meeting of the Cognitive Development Society.
- Schug, M.G., Patalano, A., **Barth, H.**, Shusterman, A., *Herrig, E., & MacDonald, K.* (2009). Group bias, statistical reasoning, and social judgments. Conference abstract, Meeting of the Cognitive Development Society.
- Schug, M.G., Patalano, A., **Barth, H.**, & Shusterman, A. (2009). Group bias, prosocial behavior, and social judgments in early childhood. Conference abstract, Meeting of the Human Behavior and Evolution Society (HBES).
- Bhandari, K., & Barth, H.* (2009). Acquiring knowledge from others: preschoolers' use of testimony. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Sullivan, J., MacDonald, K., Paladino, A., & Barth, H.* (2009). Children's mappings of number words to large numerosities. Conference abstract, Meeting of the Society for Research in Child Development (SRCD).
- Barth, H.** (2007). Judging discrete and continuous quantity: In large sets, number counts. Annual Meeting of the Psychonomic Society.
- Barth, H., Ballinger, A., Carrasco, A., Jacobson, R., & Tsai, J.** (2007). Children's assessments of volume and number in 3D object arrays. Meeting of the Society for Research in Child Development (SRCD).
- Ballinger, A., & Barth, H.* (2007). Counting, estimation, and approximate nonverbal arithmetic in young children. Annual Meeting of the Society for Research in Child Development (SRCD).

### **M.A. THESIS SUPERVISION**

- Keera Bhandari '08, B.A./M.A. student: M.A. in Psychology '09  
M.A. Thesis: *Acquiring knowledge from others: Preschoolers' use of testimony*
- Sheri Reichelson '16, B.A./M.A. student: M.A. in Psychology '17  
M.A. Thesis: *Partition dependence in development: How groupings of options influence decision making in children and adults*
- Kerry Brew '18, B.A./M.A. student: M.A. in Psychology '19  
M.A. Thesis: *The minimal group/no-group study: Exploring demand characteristics in the child minimal group paradigm*

### **UNDERGRADUATE HONORS THESIS SUPERVISION**

- Ariel Ballinger Starr '07, B.A. in Psychology and Neuroscience & Behavior  
Thesis: *Counting, estimation, and nonsymbolic approximate addition in young children*
- Kyle MacDonald '10, B.A. in Psychology  
Thesis: *Group bias in preschoolers' assessments of speaker reliability*
- Martine Seiden '11, B.A. in Psychology  
Thesis: *The proportional reasoning abilities of preschool children*
- Shipra Kanjlia '12, B.A. in Psychology, Neuroscience & Behavior, and Biology  
Thesis: *How feedback improves children's numerical estimation*
- Emilie George '13, B.A. in Neuroscience & Behavior  
Thesis: *An investigation of numerical estimation, numerical acuity, and math ability*

Jillian Roberts '15, B.A. in Psychology and Sociology

Thesis: *Investigating minimal group bias and equality preference in children's resource allocation tasks*

Jenny Chelmow '19, B.A. in Psychology

Thesis: *How do preschoolers estimate proportions?*

## **POSTDOCTORAL SUPERVISION**

Dr. Mariah Schug, 2008 - 2010 (co-advisor with Dr. Andrea Patalano & Dr. Anna Shusterman)

Dr. Emily Slusser, 2010 - 2012 (co-advisor with Dr. Anna Shusterman)

Dr. Chenmu (Julia) Xing, September 2016 - present (co-advisor with Dr. Andrea Patalano)

Dr. Sierra Eisen, July 2020 - present (co-advisor with Dr. Anna Shusterman)

## **UNDERGRADUATE RESEARCH SUPERVISION**

Class of 2006: Nick DeWind

Class of 2007: Ariel Ballinger Starr, AnjaLi Carrasco, Sarah Elgart, Margaret Gullick, Lisa Sacerio, Nora Switchenko, Jessica Tsai, Allison Zoromski

Class of 2008: Keera Bhandari, Joseph Feldblum, Rachel Jacobson, Phoebe Jones, Jessica Sullivan, Nicole Gray

Class of 2009: Julie Neuspiel, Annie Paladino

Class of 2010: Elise Herrig, Kyle MacDonald, Jennifer Garcia

Class of 2011: Anima Acheampong, Luci Cassella, Martha Liskow, Martine Seiden

Class of 2012: Adele Borden, Deborah Cho, Kenneth Feder, Shipra Kanjlia, Hannah Monk, Eleanore Pankow, Rachel Santiago, Hao (Felix) Wang

Class of 2013: Isabel Bernstein, Emilie George, Laura Machlin

Class of 2014: Madeline Kidd, Portia Lundie, Jason Saltiel, Amy Toig, Rachel Warner, Adam Watson

Class of 2015: Ellen Lesser, Zoe Feingold, Jillian Roberts, Sonia Zavala

Class of 2016: Aime Arroyo-Ramirez, Ziyue (Zora) Li, Pinzhen (Louise) Lu, Elissa Palmer, Sheri Reichelson, Anna Schwab, Sarah Seo

Class of 2017: Sarah Corner, Jamie Hom, Ilana Ladis, Maxine Lai, Elizabeth Shackney

Class of 2018: Kerry Brew, Jordan Feingold-Link, Meghana Kandlur, Praise Owoyemi, Joanna Paul, Ray Peters

Class of 2019: Taylar Clark, Taylor Dillon, Steven Fields, Jenny Chelmow, Sofia Kinney

Class of 2020: Esha Bhandari, Sophie Charles, Amanda Fiorentino, Allison Hsu, Maya Layne, Katie Vasquez

Class of 2021: Lauren Barragan, Angelica Cucueco, Carolina Montano, Emily Newman, Sarah Aduke Ohiomah, Tyla Taylor

Class of 2022: Selena Delgado, Sarah Hammond, Courtney Litts, Abby Wolk

## **INTERNAL RESEARCH SUPPORT: FUNDING/FELLOWSHIPS**

Project Grant, Wesleyan University (\$3,500 direct)	2018
Project Grant, Wesleyan University (\$2,000 direct)	2017
Project Grant, Wesleyan University (\$2,000 direct)	2014
Project Grant, Wesleyan University (\$2,500 direct)	2012
Project Grant, Wesleyan University (\$2,500 direct)	2011
Project Grant, Wesleyan University (\$2,500 direct)	2009
Project Grant, Wesleyan University (\$2,500 direct)	2008
Faculty Fellowship, Wesleyan University Center for the Humanities	2008
Project Grant, Wesleyan University (\$2,500 direct)	2007
Project Grant, Wesleyan University (\$1,500 direct)	2006
Project Grant, Wesleyan University (\$1,500 direct)	2005



## **COURSES TAUGHT AT WESLEYAN UNIVERSITY**

### **Lecture courses**

Developmental Psychology PSYC 230  
Sensation & Perception PSYC/NS&B 222

### **Methods courses**

Research Methods in Developmental Psychology PSYC 207

### **Seminar or Laboratory courses**

Topics in Cognitive Neuroscience PSYC/NS&B 335  
Numbers in Minds CHUM/PSYC 336  
Mathematical Cognition & Children's Learning PSYC 337 (*service learning*)  
Origins of Knowledge PSYC/NS&B 348  
Advanced Research in Cognitive Development PSYC 384 (*service learning in SP16, FA20*)

## **DEPARTMENT, PROGRAM, AND UNIVERSITY SERVICE (recent only)**

### **Elected University committees:**

Faculty Committee on Rights and Responsibilities (FCRR), elected 2017-2019, Chair Fall 2018  
Review and Appeals Board (RAB), elected 2017-2020

### **Other current or recent service to the University:**

Advisory Board for Education Studies at Wesleyan, 2017-2020  
Coordinator, Wesleyan's Living Laboratory at the Connecticut Science Center, 2013-  
NSM lunch speaker, Spring 2016  
McNair Program research mentor, 2007-2008; 2010-2012; 2016  
Proposal Evaluation Committee - Wesleyan University Summer Experience Grant, Spring 2014  
University IRB, Fall 2013 (alternate member), Spring 2014 (full member)  
Library Faculty Advisory Committee, Spring 2012-Fall 2014

### **Current or recent Department service: Psychology Department**

Psychology Department Ethics Committee, Spring 2021 (chair), Fall 2020, Fall 2018 (alternate)  
Psychology Department Advising Expert, 2020-2021  
Psychology Department/Judd Hall COVID-19 Reopening Guidelines Compliance Group, Fall 2020  
Psychology Department Curriculum Committee Co-Chair, 2017-2018  
Psychology Department Cognitive Science committee, 2008-present  
Chair, Developmental Psychology Faculty Search Committee, 2015-2016  
Psychology Department mentor for junior faculty, Spring 2014-present  
Cognitive Visiting Faculty Search Committee, Spring 2014  
Psychology Department Ethics Committee, Spring 2014 (chair), Spring 2012, Fall 2010  
Psychology Department Space Utilization Committee, 2012-present; 2005-2006  
Psychology Department Statistics & Methods committee, Spring 2014  
Coordinator, Postdoctoral Program Pilot Report, Spring 2011  
Psychology Department Postdoctoral Committee, 2008-2012

## **PROFESSIONAL ACTIVITIES & SERVICE TO THE FIELD**

### **Recent invited talks**

Department of Psychology, Developmental series, University of Connecticut (October 2018)  
Department of Psychology, University of Notre Dame (March 2018)  
Current Work in Developmental Psychology seminar, Yale University (Jan 2016)  
"Is the Brain Bayesian?" Conference, NYU Center for Mind, Brain, & Consciousness (Dec 2015)

Department of Psychology, Developmental colloquium, UMass Amherst (Nov 2015)  
Department of Psychology, Developmental colloquium, Boston College (May 2014)

Advisory Board service

Advisory Board member for NSF CAREER grant to Elizabeth Gunderson, Ph.D. (Temple U.)  
Advisory Board member for NSF CAREER grant to Nicole McNeil, Ph.D. (Notre Dame)  
Advisory Board member for NSF REAL grant to Rebekah Richert (UC Riverside), Ellen Wartella (Northwestern U.), & Sandra Calvert (Georgetown U.)

Dissertation committee service

Committee member for Michelle Hurst (Ph.D. in Developmental Psychology, August 2017)  
Boston College Department of Psychology, Advisor: Sara Cordes

Grant review service

Panel reviewer, NSF EHR Core Research (ECR)  
Ad hoc reviewer, NSF Research on Education and Learning (REAL)  
Ad hoc reviewer, NSF Development and Learning Sciences (DRL)  
Panel reviewer, NSF Research & Evaluation on Education in Science and Engineering (REESE)  
Ad hoc reviewer, NSF Research & Evaluation on Education in Science and Engineering (REESE)  
Panel reviewer, NSF Research on Learning & Education (ROLE)  
Panel reviewer, NSF Human & Social Dynamics (HSD) Priority Area

Ad-hoc journal reviewing

Attention Perception & Psychophysics, Behavioral & Brain Sciences, Child Development, Cognition, Cognitive Development, Cognitive Psychology, Cognitive Science, Developmental Science, Early Childhood Research Quarterly, European Journal of Educational Psychology, Experimental Psychology, Journal of Experimental Child Psychology, Journal of Experimental Psychology: General, Journal of Vision, Learning and Individual Differences, Neuroimage, Psychological Science, Psychonomic Bulletin & Review, Quarterly Journal of Experimental Psychology

Participation and/or membership in professional organizations

Submission reviewer, 2019 Meeting of the Cognitive Development Society  
Table leader, Professional Development Luncheon, 2017 Cognitive Development Society Meeting  
Submission reviewer, 2013 Meeting of the Society for Research in Child Development  
Submission reviewer, 2011 Meeting of the Cognitive Science Society  
OECD/CERI Learning Sciences and Brain Research initiative, American Psychological Society, Psychonomic Society (Fellow), Society for Research in Child Development, Cognitive Development Society, Cognitive Science Society, Eastern Psychological Association, Jean Piaget Society