

June 2015

**CURRICULUM VITAE
SUSAN C. LEVINE**

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ACADEMIC HISTORY

1972	B.S.	Simmons College, Boston, MA
1976	Ph.D.	Massachusetts Institute of Technology, Department of Psychology <u>Dissertation:</u> Face Recognition in Children: Evidence for the Development of Right Hemisphere Specialization <u>Advisor:</u> Susan Carey

PROFESSIONAL POSITIONS

Assistant Professor, Department of Psychology, University of Chicago and Wyler Children's Hospital, Department of Pediatrics, Pritzker School of Medicine, University of Chicago, 1976-1983
Associate Professor, Department of Psychology, University of Chicago and Wyler Children's Hospital, Department of Pediatrics, Pritzker School of Medicine, University of Chicago, 1983-1993
Professor, Department of Psychology, 1994 – Present
Department of Comparative Human Development, 2008- Present
Committee on Education, 2005- Present

AWARDS and HONORS:

Rebecca Anne Boylan Chaired Professorship: July 2013 -
Stella M. Rowley Chaired Professorship: July 2009 – June 2013
Fellow, Association for Psychological Science, 2010
Fellow, American Association for the Advancement of Science, 2010

PSYCHOLOGY LICENSE: Illinois License Number 071-3261

SOCIETY MEMBERSHIPS:

American Psychological Association, Division 7
Association for Psychological Science
Society for Research on Child Development
Cognitive Development Society
Cognitive Science

AD HOC REVIEWER:

Science; Cognitive Psychology, Cognition, Developmental Science, Developmental Psychology, Child Development, Neuropsychologia; Brain and Cognition; Brain and Language; Journal of Experimental Child Psychology; Psychological Bulletin; Cognitive Science; Cognition; Journal of Cognition and Development; Journal of Experimental Child Psychology; Cognitive Science Society, Journal of Educational Psychology

UNIVERSITY COMMITTEES AND COMMUNITY SERVICE:

Chair, UChicago Science of Learning Center, 2015-
Chair, Department of Psychology, 2010 - 2013
Chair, Developmental Psychology, 2005 – 2010
Acting Chair, Committee on Education, Autumn 2008
Chair, Developmental Search Committee, 2005 – 2006
Chair, Cognitive Search Committee, 2004-2005
Board Member, Student and Campus Life, 2008 -
Board Member, Graham School of Continuing Studies, 2005 –2009
Board Member, Chapin Hall 2004 –
Board Member, University of Chicago Laboratory Schools 2005-
Social Sciences IRB Board 2001 – 2004
University Athletic Board, 1996-1999
Chair, Social Sciences Master Search Committee, 1999-
Co-Chair, Center for Early Childhood Research, 1998 - 2005
Chair, Curriculum Committee, Department of Psychology, 1998-2002, 2005 – Present
Chair, Committee on Cognition and Communication, Department of Psychology, 1995-1999
University Faculty Council, 1990 - 1992, 1994-1996, 2005-2008
University Faculty Committee of the Council, 2005-2006
Resident Master, Woodward Court Dormitory, 1994-1998
Executive Committee, Psychology Department, 1992-1994; 1998-2000, 2004 –
Chairman, Fellowship Committee, Women's Committee of the Brain Research Foundation,
1989- 1992
Provost's Committee on Continuing Education, 1991-1994
Chairperson, Harris Visiting Professor Committee, 1991-92
Chair, Educational Psychology Special Field, Department of Education, 1989-1991
Faculty Fellow, Woodward Court
Faculty Adviser, Ronald McDonald House
Dean's Symposium Committee, Social Sciences
Galler Prize Committee, Social Sciences
College Discipline Committee
Chair, Social Sciences Core Course (Mind)

OUTSIDE COMMITTEES/SERVICE

Reviewer for “*Too Small To Fail*”, Early Math
External Review Committee, Duke University Department of Psychology, 2015
Advisory Group, Early Math, Heising-Simons Foundaton, 2013
Advisory Panel, Early Math, National Governors’ Association, 2013
Advisory Board for IES grant, “Teaching Conceptual and Perceptual Processes on Graph Comprehension”, Steven Franconeri, P.I., Northwestern University, 2013.
Advisory Board for IES grant, A Longitudinal Study of 3-D Spatial Skills and Mathematics Development in Elementary School Children, Martha Carr, P.I., University of Georgia, 2012.
Advisory Board for NSF grant “Tangibility in Mathematics”, Mitchell Nathan, P.I., University of Wisconsin, 2011.
Committee Member, National Academies of Sciences Early Childhood Mathematics, 2006-2009; Book published, *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*, 2009
Consultant on Early Math: Sesame Street, 2007 and 2008
External Review Committee, Emory University Department of Psychology, 2008
IES and NSF grant review panels

CURRENT FUNDING

September 1, 2011 – August 31, 2016: (PI for U of C) Renewal of Spatial Intelligence and Learning Center.
June 15, 2011 – June 14, 2014 (NCE 2015): IES (PI: Beilock): An Exploration of Malleable Social and Cognitive Factors Associated with Early Elementary School Students’ Mathematics Achievement. Role: Investigator.
July 1, 2012 – June 30, 2015: IES: Spatial Training as an Intervention for Mathematics. Role: Investigator.
February 1, 2013 – August 31, 2018: Bedtime Math Foundation (PI: Beilock): Bedtime Math. Role: Co-PI
December 10, 2013 – March 31, 2018: NIH: Environmental & Biological Variation and Language Growth. Role: Co-PI
October 1, 2013 – May 30, 2015: McCormick/Chicago Mercantile Exchange: Getting on Track Early for School Success: An Assessment System to Support Effective Instruction. Role: Co-PI
July 1, 2014 – June 30, 2017: Heising Simons Foundation: Getting on Track Early for School Success: Formative Assessment and Instruction of Mathematics in Preschool Classrooms
Role: Co-PI
December 8, 2014 – June 30, 2016: Heising Simons Foundation (subaward with Stanford University): Development and Research in Early Mathematics Education Network (DREME)
Role: Co-PI

TEACHING

Advanced Seminar: Developmental Psychology
Seminar: Mathematical Development
Introduction to Developmental Psychology
Mind (Social Sciences Core Course)
Introduction to Developmental Neuropsychology

Seminar: Early Mathematical Thinking
Functional Plasticity in Language Development
Developmental Neuropsychology
Environmental Effects on Cognitive Growth
Special Populations: Lessons for Developmental Psychology
Undergraduate Psychology Honors Seminar
Seminar: From Language to Literacy

PUBLICATIONS

Books

Mix, K.S., Huttenlocher J., & Levine, S.C. (2002) Quantitative development in infancy and early childhood. Oxford University Press: New York.

Stiles, J., Reilly, J.S., Levine, S.C., Trauner, D., & Nass, R.D. (2012). Neural Plasticity and Cognitive Development: Insights from Children with Perinatal Brain Injury, Oxford University Press: New York.

Levine, S.C. (in progress). Math is Not Optional, Oxford University Press.

Journal Articles and Chapters

Leehey (Levine), S.C., Moscovitz-Cook, A., Brill, S., and Held, R. (1975) Orientational anisotropy in human infants. Science, 190, 900-902

Leehey (Levine), S.C., Carey, S., Diamond, R., and Cahn, A. (1978) Upright and inverted faces: The right hemisphere knows the difference. Cortex, 14, 411-419.

Leehey (Levine), S.C., and Cahn, A. (1979) Lateral asymmetries in the recognition of words, familiar faces, and unfamiliar faces. Neuropsychologia, 17, 619-635.

Levine, S.C., and Koch-Weser, M. (1982) Right hemisphere superiority in the recognition of famous faces. Brain and Cognition, 1, 10-22.

Levine, S.C., and Carey, S. (1982) Up front: The acquisition of a concept and a word. Journal of Child Language 9, 1982, 645-657. (Also appeared in Paper and Reports on Child Language Development, No. 15, August 1978.)

Levine, S.C., and Banich, M. (1982) Lateral asymmetries in the naming of words and corresponding line drawings. Brain and Language, 17, 34-45.

Levine, S.C. (1983) Hemispheric specialization and functional plasticity during development. Journal of Children in Contemporary Society, 16, 1983, 77-98.

Reprinted in: A Child's Brain, Mary Frank (Ed.), New York: The Haworth Press.

Levine, S.C., and Banich, M.T. (1984) Possible effects of forced report order on tachistoscopic recognition of bilaterally presented stimuli: A response to Young and Ellis. Brain and Language, 21, 364-374.

- Levine, S.C., Banich M.T., and Koch-Weser, M. (1984) Variations in patterns of lateral asymmetry among dextrals. Brain and Cognition, 3, 317-334.
- Pedelty, L., Levine, S.C., and Shevell, S. (1985) Developmental changes in face processing: Results from multidimensional scaling. Journal of Experimental Child Psychology, 39, 1985, 421-436.
- Levine, S.C. (1985) Developmental change in right hemisphere involvement in face recognition. In Catherine Best (Ed.), Developmental Neuropsychology and Education: Hemispheric Function and Collaboration. New York: Academic Press, 1985.
- Levine, S.C., and Levy, J. (1986) Perceptual asymmetry for chimeric faces across the lifespan. Brain and Cognition, 5, 291-306.
- Levine, S.C., Banich, M.T. and Kim, H. (1987) Variations in arousal asymmetry: Implications for face processing. In David Ottoson (Ed.) Duality and unity of the brain. Wenner-Gren Center International Symposium Series, 207-222.
- Levine, S.C., Huttenlocher, P., Banich, M.T., and Duda E. (1987) Factors affecting cognitive functioning in hemiplegic children. Developmental Medicine and Child Neurology, 27, 27-35.
- Reprinted in: Annual Progress in Child Psychiatry and Child Development (1988). S. Chess, A. Thomas and M.E. Hertzog, (Eds.), 540-558, Philadelphia: Brunner/Mazel.
- Tonsgard, J., Hardwicke, N. and Levine, S.C. (1987) The Kluver-Bucy syndrome in children. Pediatric Neurology, 3, 162-165.
- Levine, S.C., Banich, M.T., and Koch-Weser, M. (1988) Face recognition: A general or specific right hemisphere capacity? Brain and Cognition, 8, 303-325.
- Levine, S.C. (1989) The question of faces: Special is in the brain of the beholder. In Hayden Ellis and Andrew Young (Eds.), Handbook of Research on Face Processing, Amsterdam: North Holland Publishing Company.
- Banich, M.T., Levine, S.C., Kim, H., and Huttenlocher, P. (1990) The effects of developmental factors on IQ in hemiplegic children. Neuropsychologia, 28, 35-48.
- Huttenlocher, P., Levine, S.C., Huttenlocher, J. & Gates, J. (1990) Discrimination of normal and at-risk children on the basis of neurological tests. Developmental Medicine and Child Neurology, 32, 394-402.
- Kim, H., Levine, S.C. and Kertesz, S. (1990) Are variations among subjects in lateral asymmetry real individual differences or random error in measurements? Putting variability in its place. Brain and Cognition, 14, 230-242.
- Huttenlocher, J. and Levine, S.C. (1990) Primary Test of Cognitive Skills, MacMillan/MacGraw-Hill.
- Kim, H. and Levine, S.C. (1991) Inferring patterns of hemispheric specialization for individual subjects from laterality data: A two-task criterion. Neuropsychologia, 29, 93-105.

- Kim, H. and Levine, S.C. (1991) Sources of between-subjects variability in asymmetry scores: A meta-analytic review. Neuropsychologia, 29, 877-888.
- Levine, S.C., Jordan, N.C. & Huttenlocher, J. (1992) Development of calculation abilities in young children. Journal of Experimental Child Psychology, 53, 72-93.
- Kim, H. and Levine, S.C. (1992) Variations in characteristic perceptual asymmetry: Modality specific and modality general components. Brain and Cognition, 19, 21-47.
- Jordan, N.C., Huttenlocher, J. and Levine, S.C. (1992) Differential calculation abilities in young children from middle- and low-income families. Developmental Psychology, 28, 644-653.
- Levine, S.C. (1993) Effects of early unilateral lesions: Changes over the course of development. In G. Turkewitz and D. Devenny (Eds.), Developmental Time and Timing, Hillsdale, NJ: Lawrence Erlbaum Associates.
- Jordan, N.C., Levine, S.C. & Huttenlocher, J. (1994). Differential calculation abilities in young children with special needs: Linking research with assessment and instruction. In N.C. Jordan & J. Goldsmith-Phillips (Eds.), Learning disabilities: New directions for assessment and intervention, Boston: Allyn & Bacon.
- Jordan, N.C., Levine, S.C. & Huttenlocher, J. (1994) Development of calculation abilities in middle- and low-income children after formal instruction in school. Journal of Applied Developmental Psychology, 15, 223-240.
- Kim, H. & Levine, S.C. (1994) Variance differences in asymmetry scores on bilateral vs. unilateral laterality tasks. Cognitive Neuropsychology, 11, 479-498.
- Huttenlocher, J., Jordan, N. & Levine, S.C. (1994) A mental model for early arithmetic. 1994) Assessing calculation abilities in middle and low-income preschool children: Effects of response type and income level. Learning and Individual Differences, 6, 413-432. Journal of Experimental Psychology: General, 123, 284-296.
- Levine, S.C. (1995) Individual Difference in Characteristic Arousal Asymmetry: Implications for Cognitive Functioning. In F.L. Kitterle, Ed., Hemispheric Communication: Mechanisms and Models, New Jersey: Lawrence Erlbaum Associates.
- Jordan, N., Levine, S.C., and Huttenlocher, J. (1995) Calculation abilities in young children with different patterns of cognitive functioning. Journal of Learning Disabilities, 28(1), 53-64.
- Mix, K., Huttenlocher, J. and Levine, S.C. (1996) Do preschool children recognize auditory-visual numerical correspondences? Child Development, 67, 1592-1608.
- Compton, R. and Levine, S.C. (1997) Menstrual cycle phase and mood effects on perceptual asymmetry. Brain and Cognition, 35, 168-183.
- Mix, K., Levine, S.C., & Huttenlocher, J. (1997) Numerical abstraction in infants: Another look. Developmental Psychology, 33, 423-428.
- Huttenlocher, J., Levine, S.C. & Vevea, J. (1998) Environmental effects on cognitive growth: Input from school. Child Development, 69, 1012-1029.

- Mix, K.S., Levine, S.C. and Huttenlocher, J. (1999). Early fraction calculation ability. Developmental Psychology, *35*, 164-174.
- Levine, S.C., Huttenlocher, J., Taylor, A. & Langrock, A. (1999) Early sex differences in spatial ability. Developmental Psychology, *35*, 940-949.
- Gao, F., Levine, S.C., & Huttenlocher, J. (2000) What do infants know about continuous quantity? Journal of Experimental Child Psychology, *77*, 20-29.
- Mix, K., Huttenlocher, J., & Levine, S.C. (2002) Multiple Cues for Quantification in infancy: Is number one of them? Psychological Bulletin, *128*, 278-294.
- Chang, P., Levine, S.C. and Benson, P. (2002) Children's recognition of caricatures. Developmental Psychology, *38*, 1038-1051.
- Huttenlocher, J., Duffy, S., & Levine, S.C. (2002) Infants and toddlers discriminate amount: Are they measuring? Psychological Science, *13*, 244-249.
- Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S.C. (2002) Language input at home and at school: Relation to syntax. Cognitive Psychology, *45*, 337-374.
- Levine, S.C., Regier, T. & Solomon, T. (2002) Did residual normality really have a chance? Brain and Behavioral Sciences *25*, 759-760.
- Duffy, S. Huttenlocher, J., & Levine, S.C. (2005) How infants encode spatial extent? Infancy, *8*, 81-90.
- Duffy, S., Huttenlocher, J., & Levine, S. (2005) It is all relative: How young children encode extent. Journal of Cognition and Development *6*, 51-63.
- Levine, S.C., Vasilyeva, M., Lourenco, S., Newcombe, N. & Huttenlocher, J. (2005) Socioeconomic status modifies the sex difference in spatial skill. Psychological Science, *16*, 841-845.
- Levine, S.C., Kraus, R., Alexander, E., Suriyakhan, L., & Huttenlocher, P. (2005) IQ decline following early unilateral brain injury: A longitudinal study. Brain and Cognition, *59*, 114-123.
- Klibanoff, R., Levine, S.C., & Huttenlocher, J., Vasilyeva, M. & Hedges, L. (2006) Preschool Children's Mathematical Knowledge: The effect of teacher "math talk". Developmental Psychology, *42*, 59-69.
- Ehrlich, S., Levine, S.C., & Goldin-Meadow, S. (2006) The importance of gesture in children's spatial reasoning. Developmental Psychology, *42*, 1259-1268.
- Jeong, Y., Levine, S.C., & Huttenlocher, J. (2007) The development of proportional reasoning: Effect of continuous vs. discrete quantities, Journal of Cognition and Development, *8*, 237-256.
- Reilly, J. Levine, S., Nass, R. and Stiles, J. (2008). Brain Plasticity: Evidence from children with prenatal brain injury. In Reed, J and J Warner (Eds.) Child Neuropsychology. Oxford: Blackwell Publishing.

- Boyer, T., Levine, S.C. & Huttenlocher, J. (2008). Development of proportional reasoning: Where young children go wrong. Developmental Psychology, *44*, 1478-1490.
- Lourenco, S.F. & Levine, S.C. (2008). Early numerical representations and the natural numbers: Is there really a complete disconnect? Brain and Behavioral Sciences, *31*, 660.
- Jordan, N.C. & Levine, S.C. (2009). Socio-economic variation, number competence, and mathematics learning difficulties in young children. Developmental Disabilities Research Reviews, *15*, 60-68.
- Rowe, M. L., Levine, S.C., Fisher, J., & Goldin-Meadow, S. (2009). Does linguistic input play the same role in language learning for children with and without early brain injury? Developmental Psychology, Special section on The interplay of biology and the environment broadly defined, *45*, 90-102.
- Stiles, J., Nass, R.D., Levine, S.C., Moses, P. & Reilly, J.S. (2009) Perinatal stroke: Effects and outcomes. In K.O. Yeates, M.D. Ris, H.G. Taylor, and B. Pennington (Eds.) Pediatric Neuropsychology Research, Theory, and Practice (2nd edition). New York: The Guildford Press.
- Sauer, E., Levine, S.C., Rowe, M. & Goldin-Meadow, S. (2010). Early gesture predicts language delay in children with pre- or perinatal brain lesions. Child Development, *81*, 528-539.
- Cartmill E., Pruden, S., Levine, S.C. & Goldin-Meadow, S. (2010). The role of parent gesture in children's spatial language development. Proceedings of the Boston University Child Language Conference.
- Beilock, S.L., Gunderson, E.A., Ramirez, G. & Levine, S.C. (2010). Female teachers' math anxiety impacts girls' math achievement. Proceedings of the National Academy of Sciences, *107*(5), 1060-1063.
- Beharelle, A.R., Dick, A.S., Goulven, J., Solodkin, A., Huttenlocher, P., Levine, S.C., & Small, S.L. (2010). Left hemisphere regions are critical for language in the face of early left focal brain injury. Brain, doi: 10.1093/brain/awq104.
- Beilock, S.L., Gunderson, E.A., Ramirez, G. & Levine, S.C. (2010). Reply to Plante et al.: Girls' math achievement is related to their female teachers' math anxiety, Proceedings of the National Academy of Sciences, *107*, E80.
- Krakowski, M., Ratliff, K.R., Gomez, L.M. & Levine, S.C. (2010). Spatial intelligence and the research-practice challenge. In K. Gomez, L. Lyons, & J. Radinsky (Eds.), *Learning in the disciplines: Proceeding of the 9th International Conference of the Learning Sciences, 1*, 556-563, Chicago, IL: International Society of the Learning Sciences.
- Demir, E., Levine, S.C. , & Goldin-Meadow, S. (2011). Narrative skill in children with early unilateral brain injury: A possible limit to functional plasticity. Developmental Science, *13*(4), 636-647.

- Levine, S.C., Suriyakham, L., Rowe, M. & Huttenlocher, J. & Gunderson, E. A. (2011). What counts in the development of children's number knowledge?. Developmental Psychology, 46, 1309-1313.
- Levine, S.C., Gunderson, E.A. & Huttenlocher, J. (2011). Mathematical development during the preschool years in context: Home and school input variations. Developmental Science Goes to School: Implications for Education and Public Policy Research, Nancy L. Stein & Stephen Raudenbush, Eds., New York: Taylor and Francis.
- Huttenlocher, J., Levine, S.C. & Ratliff, K. (2011). The development of measurement: From holistic perceptual comparison to unit understanding. Developmental Science Goes to School: Implications for Education and Public Policy Research, Nancy L. Stein & Stephen Raudenbush, Eds., New York: Taylor and Francis.
- Demir, O.E., Applebaum, L. Levine, S.C., Petty, C., & Goldin-Meadow, S. (2011). The story behind parent-child book-reading interactions: Relations to later language and reading outcomes. Boston University Child Language Conference.
- Gunderson, E.A. & Levine, S.C. (2011). Some types of parent number talk count more than others: Relation between parents' input and children's number knowledge. Developmental Science, 14(5), 1021-1032.
- Pruden, S.M., Levine, S.C., Huttenlocher, J. (2011) Children's spatial thinking: Does talk about the spatial world matter? Developmental Science, 14(6), 1417-1430.
- Boyer, T. & Levine, S.C. (2012). Child proportional scaling: Is $1/3 = 2/6 = 3/9 = 4/12$? (2012). Journal of Experimental Child Psychology. 111, 516-533
- Gunderson, E.A., Ramirez, G., Levine, S.C., & Beilock, S.L. (2012). The role of parents and teachers in the development of gender-related math attitudes. Sex Roles, 66(3), 153-166.
- Gunderson, E.A., Ramirez, G., Levine, S.C. and Beilock, S.L. (2012). New Directions for research on the role of parents and teachers in the development of gender-related math attitudes: Response to commentaries. Sex Roles, 66(3), 191-196.
- Gunderson, E.A., Ramirez, G., Beilock, S.L., & Levine, S.C. (2012). The relation between spatial skill and early number knowledge: The role of the linear number line. Developmental Psychology, 48, 1229-1241.
- Goldin-Meadow, S., Levine, S.C., Zinchenko, E., Yip, T.K. & Factor, L. (2012). Doing gesture promotes learning a mental rotation task better than seeing gesture. Developmental Science, 15, 876-884.
- Sauter, M., Uttal, D.H., Alman, A., Goldin-Meadow, S. & Levine, S.C. (2012). Learning what children know about space by looking at their hands: The added value of gesture in spatial communication. Journal of Experimental Child Psychology, 111, 587-606.
- Levine, S.C., Ratliff, K., Cannon, J. & Huttenlocher, J. (2012) Early puzzle play: A predictor of preschoolers' mental rotation skill. Developmental Psychology. 48, 530-42.

- Ramirez, G., Gunderson, E.A., Levine, S.C., & Beilock, S.L. (2012). Spatial anxiety relates to spatial ability as a function of working memory in children. *The Quarterly Journal of Experimental Psychology*, 65(3), 474-487. doi: 10.1080/17470217.2011.616214
- Ozcaliskan, S., Levine, S.C., & Goldin-Meadow, S. (2013) Gesturing with an injured brain: How gesture helps children with early brain injury learn linguistic constructions. *Journal of Child Language*, 40, 69-105.
- Ramirez, G., Gunderson, E.A., Levine, S.C. & Beilock, S.L. (2013). Math anxiety, working memory and math achievement in early elementary school. *Journal of Cognition and Development*, 14 (2), 187-2002.
- Gunderson, E.A., Ramirez, G., Beilock, S.L. & Levine, S.C. (2013). Teachers' spatial anxiety relates to 1st- and 2nd-graders' spatial learning. *Mind, Brain, and Education*. 7 (3), 196-199.
- Gunderson, E.A., Gripshover, S., Romero, C., Goldin-Meadow, S., Dweck, C.S. & Levine, S.C. (2013). Parents' praise to 1- to 3-year-olds predicts children's incremental theories 5 years later. *Child Development*, 84(5), 1526-1541, doi: 10.1111/cdev.12064
- Gamez, P.B. & Levine, S.C. (2013). Oral language skills of Spanish-speaking English language learners. *Applied Psycholinguistics*, 34(4), 673.
- Demir, Ö.E., Fisher, J., Goldin-Meadow, S., and Levine, S.C. (2013). Narrative processing in typically developing children and children with early unilateral brain injury: Seeing gesture matters. *Developmental Psychology*.
- Shneidman, L., Arroyo, M.E., Levine, S.C. & Goldin-Meadow, S. (2013). What counts as effective input for word learning? *Journal of Child Language*. 40, 672-686, doi: 10.1017/S0305000912000141
- Quinto-Pozos, D., Singleton, J.L., Hauser, P., Levine, S.C., Garberoglio, C.L. & Hou, L. (2013). Atypical signed language development: A case study of challenges with visual-spatial processing. *Cognitive Neuropsychology*, 30(5), 332-359.
- Quinto-Pozos, D., Singleton, J., Hauser, P., & Levine, S. (2014). A case-study approach to investigating developmental signed language disorders. In D. Quinto-Pozos (Ed.), *Multilingual Aspects of Signed Language Communication and Disorder*. Bristol, England: Multilingual Matters, LTD.
- Colletta, J.M., Guidetti, M., Kunene, R., Capirci, O., Cristilli, C., Demir, Ö. E., & Levine, S. C. (2014). Effects of age and language on co-speech gesture production: An investigation of French, American and Italian children's narratives. *Journal of Child Language*. 42(1), 122-145.
- Goldin-Meadow, S., Levine, S.C. & Jacobs, S. (2014). Gesture's role in early arithmetic, Chapter to appear in Edwards, L.D., Ferrara, F. & Moore-Russo, D. *Emerging Perspectives in Gesture, Embodiment, and Mathematics*, Information Age Publishing.
- Goldin-Meadow, S., Levine, S.C., Hedges, L.V., Huttenlocher, J., Raudenbush, S.W., & Small, S. (2014). Hypotheses about language and cognitive development based on a

- longitudinal study: Implications for intervention. *American Psychologist*, *69*(6), 588-599.
- Gibson, D., Congdon, E., & Levine, S.C. (2015). The effects of word learning biases on children's understanding of angle. *Child Development*, *86*, 319-326.
- Levine, S.C., Beharelle Raja, A., Demir, Ö. E., & Small, S. (2015). Perinatal Focal Brain Injury: Scope and Limits of Plasticity for Language Functions. To appear in *Neurobiology of Language* (G.S. Hickok and S.L. Small, Eds.), Elsevier.
- Suskind, D., Leffel, K.R., Leininger, L., Gunderson, E.A., Sapolich, S.G., Suskind, E., Hernandez, M.W., Goldin-Meadow, S., & Levine, S.C. (2015). A parent-directed language intervention for children of low socioeconomic status: A randomized control trial. Available on CJO 2015.
- Gunderson, E.A., Spaepen, E., & Levine, S.C. (2015). Approximate number word knowledge before the cardinal principle. *Journal of Experimental Child Psychology*, *130*, 35-55.
- Demir, Ö. E., Levine, S.C., & Goldin-Meadow, S. (2015). A tale of two hands: Children's gesture use in narrative production predicts later narrative structure in speech. *Journal of Child Language*, *42* (3), 662-681, doi: 10.1017/s0305000914000415.
- Demir, Ö. E., Rowe, M., Heller, G. Goldin-Meadow, S., & Levine, S.C. (2015). Vocabulary, syntax and narrative development in children with and without early unilateral brain injury: Early parental talk about the there-and-then matters. *Developmental Psychology*, *51*(2), 161-175, doi.org/10.1037/a0038476.
- Boyer, T.W. & Levine, S.C. (2015). Prompting children to reason proportionally: Processing discrete units and continuous amounts. *Developmental Psychology*, *51*(5), 615-620.
- Treiman, R., Schmidt, J., Decker, K., Robins, S., Levine, S.C., & Demir, Ö. E. (2015). Parents' talk about letters with their young children. *Child Development*, *86*(5), 1406-1418, doi: 10.1111/cdev.12385.
- Park, D., Gunderson, E.A., Tsukayama, E., Levine, S.C., & Beilock, S.L. (in press). The relation between teachers' instructional practices and children's motivational frameworks. *Journal of Educational Psychology*
- Maloney, E.A., Ramirez, G., Gunderson, E.A., Levine, S.C. & Beilock, S.L. (2015). Intergenerational effects of low math achievement and high math anxiety. *Psychological Science*.
- Gunderson, E.A., Spaepen, E., Gibson, D., Goldin-Meadow, S., & Levine, S.C. (2015). Gesture as a window on children's number knowledge, *Cognition*, *144*, 14-28.
- Solomon, T., Vasilyeva, M., Huttenlocher, J., & Levine, S.C. (2015). Minding the gap: Children's difficulty conceptualizing spatial intervals as linear units of measurement. *Developmental Psychology*, *51*(11), 1564-73.
- Berkowitz, T., Schaeffer, M., Maloney, E., Peterson, L., Gregor, C., Levine, S.C., & Beilock, S. (2015). Bedtime math with parents boosts children's math achievement. *Science*, *350*(6257), 196-198.

- Newcombe, N.S., Levine, S.C. & Mix, K.S. (2015). Thinking about quantity: The intertwined nature of spatial and numerical cognition. *WIREs Cognitive Science*, 6, 495-501, doi: 10.1002/wcs.1369.
- Maloney, E.A., Converse, B.A., Gibb, C.R., Levine, S.C., & Beilock, S.L. (2015). Jump-starting early childhood education at home: Early learning, parent motivation, and public policy. *Perspectives in Psychological Science*. 10, 727-732, doi: 10.1177/1745691615607064
- Möhring, W., Frick, A., Newcombe, N. & Levine, S.C. (2016). Spatial proportional reasoning is associated with formal knowledge about fractions. *Journal of Cognition and Development*, 17(1), 67-84.
- Ramirez, G., Chang, H., Maloney, E., Levine, S.C., & Beilock, S.L. (2016). On the relationship between math anxiety and math achievement in early elementary school: The role of problem solving strategies. *Journal of Experimental Child Psychology*, 141, 83-100.
- Gentner, D., Levine, S. C., Dhillon, S., Ping, R., Bradley, C., Isaia, A., & Honke, G. (2016). Rapid learning in a children's museum via analogical comparison. *Cognitive Science*, 40, 224-240.
- Levine, S.C., Dulaney, A., Lourenco, S.F., Ehrlich, S., & Ratliff, K. (2016). Sex differences in spatial cognition: Advancing the conversation. *WIREs Cognitive Science*, 127-155, doi: 10.1002/wcs.1380.
- Park, D., Schaeffer, M., Nolla, K., Levine, S. C., & Beilock, S. L. (in press). How do generic statements impact performance? Evidence for entity beliefs. *Developmental Science*.
- Mix, K.S., Levine, S.C., & Newcombe, N. (in press). Development of quantitative thinking across correlated dimensions. To appear in *Continuous Issues in Numerical Cognition: How Many or How Much*. Avishai Henik, Ed., Elsevier.
- Levine, S.C. & Baillargeon, R. Different faces of language in quantitative development: Exact number and object individuation. (in press). To appear in A. Barron and D. Barner, Eds., Oxford University Press.

UNDER REVIEW

- Levine, S.C., Goldin-Meadow, S., Carlston, M.T., & Hemani-Lopez, N. Mental transformation skill in young children: Action and gesture training promote learning over different time frames.
- Demir, O.E., Applebaum, L., & Levine, S.C. The story behind early parent-child book-reading interactions: Do they predict later language and literacy outcomes controlling for other talk children hear?
- Gripshover, S., Sorhagen, N., Gunderson, E., Dweck, C., Goldin-Meadow, S., & Levine, S.C. Parent praise to toddler predicts 4th grade academic achievement via children's incremental mindsets.
- Beilock, S.L., Borgonovi, F., Dulaney, A.E., Herts, J., Guerriero, S., & Levine, S.C. Mathematics anxiety and STEM success.

Park, D., Gunderson, E. A., Maloney, E. A., Beilock, S. L., & Levine, S. C. (under review). Parent Intrusive Homework Support and Children's Math Achievement: Relation to Children's Motivational Frameworks.

Gunderson, E. A., Park, D., Maloney, E., Beilock, S. L., & Levine, S. C. (under review). Fixed mindsets lead to math anxiety and academic-gender stereotypes in early elementary school.

Mix, K.S., Levine, S.C., Cheng, Y-L, Young, C., Hambrick, D.Z., Ping, R., Konstantopoulos, S. (under review). Developmental relations among specific spatial and math abilities: A factor analytic approach.

COLLOQUIA AND PRESENTATIONS (not complete)

Leehey, S.C., Moscowitz-Cook, A., Brill, S. and Held, R. (1975, April) Orientational anisotropy in human infants. Association for Research in Vision Ophthalmology, Sarasota, Florida.

Leehey, S.C. (1976, April) Development of right hemisphere specialization. Eastern Psychological Association, New York.

Leehey, S.C. (1977, March) A developmental change in right hemisphere specialization. Biennial Meeting of the Society for Research on Child Development, New Orleans.

Leehey, S.C. and Carey, S. (1978, March) Up front: The acquisition of a concept and a word. Stanford Child Language Conference, Palo Alto, California.

Levine, S.C. (1980, May) Development of right hemisphere specialization and sparing of language after early brain damage. Colloquium at Northwestern University.

Levine, S.C. (1980, May) Discussant, Panel on Spatial Abilities, Behavioral genetics Association Meeting, Chicago.

Levine, S.C. (1980, August) Sloan Conference on Hemisphere Specialization, Santa Barbara, California.

Pedelty, L., Levine, S.C., and Shevell, S.K. (1981, April) Developmental changes in face recognition as assessed by multidimensional scaling. Biennial Meeting of the Society for Research on Child Development, Boston.

Levine, S.C. (1981, April) Developmental changes in right hemisphere involvement in face recognition. Third International Conference on Neuroscience and Education, Teachers College/Columbia University.

Levine, S.C. (1984, April) Hemispheric specialization and functional plasticity during development: Evidence from hemiplegic children. Orton Dyslexia Society Meeting, Chicago.

Danis, C. and Levine, S.C. (1985, April). Object-intrinsic and gravitational rules for comprehending "top" and "bottom." Society for Research on Child Development, Toronto.

Levine, S.C. and Levy, J. (1985, April) Perceptual asymmetry for chimeric faces across the lifespan. Society for research on child development, Toronto.

Levine, S.C. (1986, March) Variations in hemispheric arousal asymmetry among dextrals. Colloquium at Northwestern University.

Levine, S.C. (1986, May) Variations in arousal asymmetry: Implications for face processing. Conference on "Unified Functioning of the Asymmetric Brain." Stockholm, Sweden.

Levine, S.C. (1986, July) Two hemispheres are better than one. Idaho Medical Association, Sun Valley, Idaho.

Levine, S.C. (1986, July) Functional plasticity during development. Idaho Medical Association, Sun Valley, Idaho.

Levine, S.C. (1987, April) The brain game: Variations in development. Brain Research Foundation, Chicago, IL.

Levine, S.C. (1988, April) Developmental consequences of early brain damage. Brain Research Foundation, Chicago, IL.

Levine, S.C. and Huttenlocher, J. (1988, April) Patterns of cognitive functioning in young learning disabled children. Northwestern University.

Levine, S.C. (1988, May) A neuropsychological interpretation of Drawing on the Right Side of the Brain. A Symposium and Art Exhibit, The Art Institute, Chicago.

Levine, S.C., Banich, M., Kim, H., and Huttenlocher, P. (1989, February) Developmental effects on IQ in hemiplegic children. International Neuropsychological Society Meeting, Vancouver.

Kim, H., and Levine, S.C. (1989, February) Factors affecting subjects' asymmetry scores: A multivariate analysis. International Neuropsychological Society Meeting, Vancouver.

Heller, W. and Levine, S.C. (1989, February) Unilateral neglect after early brain damage. International Neuropsychological Society Meeting, Vancouver.

Jordan, N., Levine, S.C., and Huttenlocher, J. (1989, March) Verbal and non-verbal arithmetic calculation abilities in pre-school children. American Educational Research Association, San Francisco.

Levine, S.C., and Banich, M.T. (1990, February) Hemispheric involvement in face processing in children with early unilateral brain damage. International Neuropsychological Society Meeting, Orlando, FL.

Kim, H., and Levine, S.C. (1990, February) Inferring patterns of hemispheric specialization for individual subjects from laterality studies. International Neuropsychological Society Meeting, Orlando, FL.

Kim, H., and Levine, S.C. (1990, February) Are subjects' characteristic perceptual asymmetries modality-general or modality-specific? International Neuropsychological Society Meeting, Orlando, FL.

- Jordan, N.C., Levine, S.C. and Huttenlocher, J. (1991, April) Verbal and nonverbal calculation abilities in preschool children. American Educational Research Association, San Francisco.
- Jordan, N.C., Levine, S.C. and Huttenlocher, J. (1991, April) Nonverbal calculation abilities in three-to-five year old children. Biennial Meeting of the Society for Research on Child Development, Seattle, Washington.
- Levine, S.C. (1991, April). Individual Differences in Characteristic Arousal Asymmetry: Implications for Cognitive Functioning. Toledo Symposium on Behavioral Research.
- Levine, S.C., Yen, S. and Kim, H. (1992, February) Lateralized attentional orienting: Effects of characteristic arousal asymmetry. International Neuropsychological Society Meeting, San Diego.
- Lazarus, T.E. & Levine, S.C. (1992, February) The development of the right hemisphere's attentional orienting capacity. International Neuropsychological Society Meeting, San Diego.
- Jordan, N.C., Levine, S.C. & Huttenlocher, J. (1992, April) Socioeconomic variation and the development of calculation abilities in first-grade children. Paper presented at annual meeting of American Educational Research Association, San Francisco, California.
- Levine, S.C., Baranes, R. and Huttenlocher, P.R. Effects of early lesions: Changes over the course of development (1992, July) International Neuropsychological Society Meeting, Durham, England.
- Levine, S.C. (1993, April) Differential grade effects on verbal and nonverbal arithmetic. Biennial meeting of the Society for Research on Child Development, New Orleans.
- Huttenlocher, J. & Levine, S.C., & Jordan, N. (1993, November) A mental model for early arithmetic. Psychonomic Society Meeting, Washington, D.C.
- Mix, K.S., Levine, S.C. & Huttenlocher, J. (1994, May) Infants' detection of auditory-visual numerical correspondences: Another look. Midwest Psychological Association Meeting, Chicago.
- Mix, K.S., Huttenlocher, J., & Levine, S.C. (1994, June) Recognition of auditory-visual numerical correspondences in infancy and childhood. Poster presented at Twenty-fourth Annual Symposium of the Jean Piaget Society, Chicago.
- Pitts, E.C., Compton, R.J., Church, R.B., Baranes, R., & Levine, S.C. (1994, July) Gesture-speech mismatches in conservation: The effects of early unilateral brain damage. Paper presented at Twenty-fourth Annual Symposium of the Jean Piaget Society, Chicago.
- Compton, R.J. & Levine, S.C. (1996, June) Mood and perceptual asymmetry during the menstrual cycle. International Neuropsychological Society, Veldhoven, The Netherlands.
- Gao, F. and Levine, S.C. (1996, June) The effect of cognitive load on interhemispheric processing. International Neuropsychological Society, Veldhoven, The Netherlands..
- Levine, S.C., Huttenlocher, J., and Mix, K. (1997, February) What young children know about mathematics. Invited Lecture at Learning Disabilities Association Annual Meeting, Chicago.

Levine, S.C. Neuroscience and Education: What do we know about the brain that has implication for education? (1997, March) American Education Association Annual Meeting.

Mix, K.S. & Levine, S.C. (1997, March) Fraction and mixed number calculation ability in four- to seven-year-olds. Biennial Meeting of the Society for Research on Child Development, Washington, D.C..

Levine, S.C. (1998, June) Development of face recognition skills. Chicago workshop in computational neuroscience: Cortical dynamics and function.

Levine, S.C. , Gao, F. & Jeong, Y. (1999, April) Is it harder to quantify discrete entities or continuous amounts? Paper presented at the Meeting of the Society for Research on Child Development, Washington, D.C.

Levine, S.C. Nonverbal math skills in pre-schoolers - findings of the University of Chicago Early Childhood Initiative. (1999, September) Invited talk presented at Conference on Language, Reasoning and Early Mathematical Development, University College London.

Levine, S.C. (1999, October) Discussant, Neural bases of spatial cognition. NSF Spatial Intelligence Conference. Chicago.

Levine, S.C. & Gao, F. (2001, April) Children's understanding of cardinal equivalence in large discrete sets. Biennial Meeting of the Society for Research on Child Development, Minneapolis.

Duffy, S. & Levine, S.C. (2001, April). Children's use of relational information in discriminating continuous quantity. Biennial Meeting of the Society for Research on Child Development, Minneapolis.

Levine, S.C. (2001, October) Research at the Center for Early Childhood Research. Paper presented at National Black Child Development Institute, Washington, D.C.

Klibanoff, R. & Levine, S.C. (2003, March) Teachers' quantitative input affects preschoolers' quantitative growth. Biennial Meeting of Society for Research on Child Development, Tampa, Florida.

Jeong, Y. & Levine, S.C. (2003, March) Children's understanding of relative quantity: Continuous amount vs. discrete number. Biennial Meeting of Society for Research on Child Development, Tampa, Florida.

Levine, S.C. (2003) Language and cognitive development after early unilateral brain injury. Invited Talk, Department of Speech and Communicative Disorders, Northwestern University.

Ehrlich, S. & Levine, S.C. (2003) Effects of training on sex differences in spatial skills. Presented at Cognitive Development Society, Park City, Utah.

Whealton, L. & Levine, S.C. (2003) Multiple representations of quantity in children ages 4 – 6. Presented at Cognitive Development Society, Park City Utah.

Ehrlich, S., Levine, S.C., & Goldin-Meadow, S. (2005, April). The effects of training on boys' and girls' mental transformation skills and strategies. Paper presented as part of a symposium, "Early gender differences in spatial skills: How to intervene to improve

spatially-based mathematical thinking. Biennial Meeting of the Society for Research on Child Development, Atlanta.

Solomon, T. & Levine, S.C. (2005, April) Young children's ability to use landmark configurations. Biennial Meeting of Society for Research on Child Development, Atlanta.

Levine, S.C., Vasilyeva, M., Lourenco, S., Newcombe, N., & Huttenlocher, J. (2005, April) The sex difference in spatial skill: Sensitivity to Socioeconomic status. Biennial Meeting of Society for Research on Child Development, Atlanta.

Jeong, Y. & Levine, S.C. (2005, April) How do young children represent numerosity? Biennial Meeting of Society for Research on Child Development, Atlanta.

Josse, G., Raja, A. C., Lobo, N., Suriyakham, L. W., Wineburgh, L. F., Huttenlocher, P. R., Levine, S. C., & Small, S. L. (2005, April) Right-hemispheric activation following early left brain injury predicts better cognitive skills: An fMRI study [abstract]. Paper presented at the 57th Annual Meeting of the American Academy of Neurology, Miami.

Brasky, K., Nikolas, M., Meanwell, C., Levine, S. & Goldin-Meadow. (2005, June) Language development in children with unilateral brain injury: Effects of lesion size. Symposium on Research in Child Language Disorders, Madison, Wisconsin.

Schaal, A. Uttal, D., Goldin-Meadow, S. & Levine, S.C. (2005, June) Children's gestures provide insight into their mental representation of space. Paper presented at the annual meeting of the Midwest Psychological Association, Chicago.

Josse, G., Skipper, J., Whealton-Suriyakham, L., Goldin-Meadow, S., Levine, S., Huttenlocher, P., Wineburgh, L., & Small, S. (2005, July) Language-associated gesture modulates areas of the brain involved in action observation and language comprehension [abstract]. Paper presented at the 11th Annual Meeting of the Organization for Human Brain Mapping, Toronto.

Sauer, E., Levine, S.C., & Goldin-Meadow, S. (2005, July) Learning words by hand and mouth in children with unilateral brain injury. Symposium on Research in Child Language Disorders, Madison, Wisconsin.

Levine, S.C., Brasky, K. & Nikolas, M. (2005, July) The role of gesture in language development in brain injured children. International Association for the Study of Child Language. Berlin, Germany.

Meyer, A., Schall, A., Uttal, D., Levine, S.C., & Goldin-Meadow, S. (2006, April) A developmental perspective on the influence of gesture on spatial representation. Conference on Human Development. Louisville, Kentucky.

Schall, A., Uttal, D., Levine, S.C., & Goldin-Meadow, S. (2006, April) Words, gestures and maps: Developmental changes in the integration of spatial information. Conference on Human Development. Louisville, Kentucky.

Demir, E. , Levine, S.C., & Goldin-Meadow, S. (2006, June) Development of verbs and grammatical morphology in children with unilateral brain injury. Society for Research on Child Language Development, Madison, Wisconsin.

Meanwell, C., Simone, M., Levine, S. (2006, June) The effects of brain lesion laterality on early language acquisition. Symposium on Research in Child Language Disorders, Madison, Wisconsin.

Sauer, E., Gripshover, S., Harden, K., Meanwell, C., Levine, S. (2006, June) Gesture development in children with early unilateral brain injury. Symposium on Research in Child Language Disorders, Madison, Wisconsin.

Raja, A.C., Josse, G., Suriyakham, L.W., Fisher, J.A., Huttenlocher, P.R., Levine, S.C., & Small, S.L. (2006, July). Regional brain activation after early left and right hemisphere stroke: Relation to cognitive functioning. 12th Annual Meeting of the Organization for Human Brain Mapping. Florence, Italy.

Suriyakham, L.W., Levine, S.C., & Huttenlocher, J. (2006, July) A naturalistic study of input effects on the development of number concepts. Cognitive Science Society, Vancouver.

Arroyo, M., Levine, S.C., & Goldin-Meadow, S. (2006, October) What counts as effective input for language learning? Presented at Boston Child Language Conference.

Levine, S.C. (2006, July) Language and gesture development go hand in hand: Typically developing children and children with early unilateral brain injury. University of Grenoble, Grenoble, France.

Levine, S.C. (2007, January). How young children learn math. Opening Minds Conference, The Chicago Early Education, Child Care and School-age, Conference, Hyatt Regency, McCormick Place, Chicago.

Levine, S.C. (2007, February). Math in the Early Years: Starting points and the importance of experience, Chicago Metropolitan Association for the Education of Young Children.

Levine, S.C. (2007, March). Multimodality Grant Data Workshop. University of Toulouse, Toulouse, France.

Levine, S.C. (2007, March). Preschoolers mathematical and spatial skills: Effects of input. Invited Talk, University of Illinois, Department of Psychology.

Cannon, J., Levine, S.C. & Huttenlocher, J. (2007, March) Are young children part-whole thinkers? Children's strategies for solving proportional equivalence problems. Society for Research on Child Development Biennial Meeting, Boston.

Levine, S.C. (2007, March) Mathematics and spatial development: The role of input. Chair, Paper Symposium. Society for Research on Child Development Biennial Meeting, Boston.

Cannon, J., Levine, S.C., & Huttenlocher, J. (2007, March) Sex differences in the relation of early puzzle play and mental transformation skill. Society for Research on Child Development Biennial Meeting, Boston.

Boyer, T., Levine, S.C., & Huttenlocher, J. (2007, March) Proportional reasoning: Intuition, problem representation and problem-solving success. Biennial Meeting of the Society for Research on Child Development, Boston.

Ehrlich, S.B. & Levine, S.C. (2007, March) What low-SES children DO know about number: A comparison of head start and tuition-based preschool children's number knowledge. Biennial Meeting of the Society for Research on Child Development, Boston.

Ehrlich, S.B., Levine, S.C., & Huttenlocher, J. (2007, March) Mathematical knowledge in low and middle-SES Preschoolers: The effect of teacher “math talk.” Biennial Meeting of the Society for Research on Child Development, Boston.

Sauer, E., Levine, S.C., Goldin-Meadow, S., & Rowe, M.L. (2007, March). Gesture and vocabulary development in children with early unilateral brain injury. Biennial Meeting of the Society for Research on Child Development, Boston.

Colletta, J.-M. & Levine, S.C. (2007, June) Gesture in early and late language development. Thematic Session. Submitted to International Society for Gesture Studies, Evanston, IL.

Ozcaliskan, S., Levine, S.C. & Goldin-Meadow, S. (2007, June) Learning to convey linguistic constructions in gesture and speech: A comparison of children with and without focal brain injury. Submitted to International Society for Gesture Studies, Evanston, IL.

Kwon, M., & Levine, S. (September, 2007). Nonverbal number matching in young children: Effects of gesture and conventional number knowledge. Poster presentation at the Fifth Biennial Meeting of Cognitive Development Society, Santa Fe, NM.

Levine, S.C. (2008, March). Challenges and rewards of interdisciplinary research. Invited talk at Northwestern University, Department of Learning Sciences.

Demir, Ö.E., Song, S., Levine, S. & Goldin-Meadow, G. (2008). Narrative ability in children with pre and peri-natal brain lesion. Poster presented at the Midwestern Psychological Association Annual Meeting, Chicago, IL.

Levine, S. C. (2008, June). Learning to think spatially: Role of early spatial language and activities, *The Ins and Outs of Spatial Language: From Theory to Practice*, Chicago, IL.

Levine, S.C. , Goldin-Meadow, S., Ehrlich, S. & Tran, Kimloan (2008, June). Can gesture improve children’s mental rotation?: A training study. Conference on Research and Training in Spatial Intelligence, Evanston, Illinois.

Demir, O.E., Goldin-Meadow, S., & Levine, S.C. (2008, October). A tale of two hands: Narrative structure in preschoolers’ speech and gesture. Boston University Child Language Conference, Boston, MA.

Gunderson, E. A. & Levine, S. C. (April 2009). SES-related variations in early parent number input. Poster to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Boyer, T.W. & Levine, S.C. (2009, April). Child proportional scaling: Are all equivalent proportions equally equal? Poster to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Lourenco, S.F., & Levine, S.C. (2009, April). Location Representation Following Early Unilateral Brain injury: Evidence of Distinct Deficits and Degrees of Plasticity. Paper to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Raja, A., Dick, A.S., Huttenlocher, P.R., Levine, S.C., & Small, S. (2009, April). Regional functional plasticity in children with early left hemisphere lesions. Paper to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Levine, S.C., Huttenlocher, J., Gunderson, E.A., Rowe, M.L. & Pruden, S., (2009, April). Preschoolers' number and spatial knowledge: Relation to early parent-child interactions. Paper to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Ehrlich, S.B., Tran, K., Levine, S.C., & Goldin-Meadow, S., (2009, April). Gesture training leads to improvement in children's mental rotation skill. Paper to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Levine, S.C., (2009, April). Mathematics in early childhood education: A time for a new beginning. Paper to be presented at the Society for Research in Child Development Biennial Meeting, Denver, Colorado.

Levine, S.C. (2009, May). Improving children's understanding of units of measure: A training study. Paper presented at Spatial Training Conference, Northwestern University.

Demir, E., Goldin-Meadow, S., & Levine, S.C. (2009, July). Narrative structure in children's speech and gesture. Paper presented as part of symposium, Language and gesture in multimodal narrative development. Multimod 2009, Toulouse, France.

Genter, D., Levine, S.C., & Dhillon, S. (2009, July). Using structural alignment to facilitate learning. Analogy 09, Sophia, Bulgaria.

Levine, S.C., Kwon, M., Huttenlocher, J., Ratliff, K., & Dietz, K. (2009, August) Children's understanding of ruler measurement: A training study. Cognitive Science Society Meeting, Amsterdam.

Levine, S.C. (2009, September). Talk in symposium: Action and Cognition: The role of gesture in symbolic spatial reasoning. International Conference on Spatial Cognition, Rome.

Levine, S.C. (2009, September). Spatial language and spatial cognition. International Conference on Spatial Cognition, Rome.

Ratliff, K.R., Levine, S.C., & Saunders, J. (November, 2009). Explaining the sex difference in children's mental rotation performance. Abstract presented at the 50th annual Psychonomic Society Meeting, Boston, Massachusetts.

Krakowski, M., Ratliff, K.R., Levine, S.C., & Gomez, L. (April 2010). Fostering spatial learning in the classroom: Integrating psychological research with educational practice. Paper presented at the American Educational Research Association, Denver, CO.

Pruden, S., Levine, S.C. & Huttenlocher, J. (March 2010) Individual differences in children's spatial language use predicts spatial thinking. International Society for Infant Studies, Baltimore, MD.

Demir, E., Applebaum, L. Levine, S.C., Pettty, C., & Goldin-Meadow, S. (November 2010). The story behind parent-child book-reading interactions: Relations to later language and reading outcomes. Submitted to Boston University Child Language Conference.

Gunderson, E. A., Gripshover, S., Romero, C., Levine, S. C., & Dweck, C. S. (January 2011). The impact of naturalistic parental praise on children's stability beliefs. Poster presented at the 12th Annual Meeting of the Society for Personality and Social Psychology, San Antonio, Texas.

Gunderson, E. A., Gripshover, S., Romero, C., Dweck, C. S., Goldin-Meadow, S., & Levine, S. C. (March 2011). Naturalistic variation in parents' praise and the formation of children's theories about trait stability. Talk presented at the Biennial Meeting of the Society for Research on Child Development, Montreal, Canada.

Hickey, E., Bradley, C., Krakowski, M., Ratliff, K. R., Gomez, L. M., Ping, R., & Levine, S. C. (March 2011). Using teacher work circles to improve spatial learning in the classroom. Biennial Meeting of the Society for Research in Child Development, March 2011, Montreal, Canada.

Gunderson, E. A., & Levine, S. C. (March 2011). The relation between young children's spatial skill and math knowledge. Poster presented at the Biennial Meeting of the Society for Research on Child Development, Montreal, Canada.

Pruden, S.M., Levine, S.C. & Huttenlocher, J. (April 2011). Children's spatial thinking: Does talk about space matter? Society for Research on Child Development, Montreal.

Gunderson, E.A., Gripshover, S.J., Romero, C., Dweck, C.S. & Levine, S.C. (April 2011). Naturalistic variation in parents' prasi^e and the formation of children's theories about trait stability. Society of Research on Child Development, Montreal.

Pruden, S.J. & Levine, S.C. (April 2011). Factors affecting spatial language development: Are there sex and socioeconomic differences? Society for Research on Child Development, Montreal.

Dick, A.S., Raja, A., Levine, S.C. Solodkin, A., & Small, S. (April 2011). Interhemispheric functional connectivity following pre- or perinatal brain injury predicts language outcome.

Society for Research on Child Development, Montreal.

Gunderson, E.A. & Levine, S.C. (April 2011). The relation between young children's spatial skill and math knowledge. Society for Research on Child Development, Montreal.

Ping, R. M., Bradley, C., Gunderson, E. A., Ramirez, G., Beilock, S. L., & Levine, S. C. (July 2011). Alleviating anxiety about spatial ability in elementary school teachers. Paper presented at the Annual Meeting of the Cognitive Science Society, Boston, MA.

Congdon, E.L., Kwon, M., Ping, R. & Levine, S.C. (2011) *The Role of Gesture versus Action in Improving Children's Understanding of Linear Measurement*. Poster presented at the 2011 Biennial Cognitive Development Society Conference.

Park, D., Gunderson, E., Owens, W.L., Levine, S. C., & Beilock, S. L. (October 2011). Wish me success, but in the right way: The impact of success expectations varies by type and target. Poster presented at the Cognitive Development Society Biennial Meeting, Philadelphia, PA.

- Mulqueeny, K.J., Huttenlocher, J., Levine, S.C. & Goldin-Meadow, S. (April 2011). The emergence of young children's descriptions of location. Society for Research on Child Development, Montreal.
- Hickey, E., Bradley, C., Krakowski, M., Ratliff, K.R., Gomez, L., Ping, R. & Levine, S.C. (April 2011). Using teacher work circles to improve spatial learning in the classroom. Society for Research on Child Development, Montreal.
- Demir, O.E., Levine, S.C. & Goldin-Meadow, S. (April 2011). Relations between early academic language use by preschool children and later reading comprehension. Society for Research on Child Development, Montreal.
- Degner, H., Lourenco, S.F. & Levine, S.C. (April 2011). The effect of temporal cues on number judgments in 4- and 5-year-olds. Society for Research on Child Development, Montreal.
- Solomon, T.L., Vasilyeva, M., Levine, S.C. & Huttenlocher, J. (April 2011). Abilities and limitations in elementary school children's understanding of linear measurement. Society for Research on Child Development, Montreal.
- Levine, S.C. (April 2011). The role of early input in children's numerical and spatial development. Society for Research on Child Development, Montreal.
- Applebaum, L., Spaepen, E., Gentner, D., Levine, S.C. & Goldin-Meadow, S. (July 2011). Structural alignment in learning bridge construction. Cognitive Science, Boston.
- Ping, R.M., Bradley, C., Gunderson, E., Ramirez, G., Beilock, S.L. & Levine, S.C. (July 2011). Alleviating anxiety about spatial ability in elementary school children. 33rd Annual Conference of the Cognitive Science Society, Boston, MA.
- Ping, R.M., Ratliff, K., Hickey, E. & Levine, S.C. (July 2011). Using manual rotation and gesture to improve mental rotation in preschoolers. 33rd Annual Conference of the Cognitive Science Society, Boston, MA.
- Levine, S.C. (January 2012). Spatial reasoning and mathematical skills. Neurospin, Saint-Aubin/Saclay, France.
- Levine, S.C. (January 2012). Educational neuroscience: Using cognitive and brain science to enhance our understanding of math learning. Organization for Economic Cooperation and Development (OECD).
- Levine, S.C. (April 2012). Using structural Alignment to guide spatial learning: A Museum Study, Museum of Science and Industry.
- Levine, S.C. (April 2012) The effects of parent input on children's early language and cognitive development. Chapin Hall at the University of Chicago.
- Gunderson, E. A., Ping, R., Ramirez, G., Bradley, C., Beilock, S. L., & Levine, S. C. (May 2012). Teacher spatial anxiety: Consequences and relief. Talk presented at the Association for Psychological Science Annual Convention, Chicago, IL.
- Owens, W. L., Schaeffer, M., Park, D., Gunderson, E. A., Levine, S. C., & Beilock, S. L. (May 2012). Children's domain-specific theories of intelligence relate to domain-specific

academic anxieties. Poster presented at the Association for Psychological Science Annual Convention, Chicago, IL.

Liu, L., Ramirez, G., Gunderson, E. A., Levine, S. C., & Beilock, S. L. (May 2012). Spatial ability relates to mathematics: But only among students with high working memory. Poster presented at the Association for Psychological Science Annual Convention, Chicago, IL.

Congdon, E.L., Kwon, M., Ping, R. & Levine, S.C. (July 2012) *The Role of Gesture versus Action in Improving Children's Understanding of Linear Measurement*. Poster presented at the 2012 International Society for Gesture Studies Conference, Lund, Sweden.

Congdon, E.L, Gibson, D., Ping, R., & Levine, S.L. (2012) *Spatial Language and Early Geometry: Using Mutual Exclusivity to Teach Young Children about Angles*. Poster presented at the 5th Annual Science of Learning Centers Conference, San Diego, California.

Levine, S.C., Congdon, E.L., Kwon, M.-K., & Ping, R. (September, 2012). The role of embodiment in children's understanding of units of measure. Talk presented at 5th International Conference on Spatial Cognition, Rome.

Ping, R., Young, C. J., Ratliff, K., Schiffman, J. & Levine, S. C. (September 2012). Tracing the development of cross-sectioning ability in three- to nine-year old children. Talk presented at 5th International Conference on Spatial Cognition, Rome.

Gentner, D., Levine, S. C., Goldwater, M. & Ping, R. (September 2012). Spatial alignment and spatial language contribute to learning about engineering. Talk presented at 5th International Conference on Spatial Cognition, Rome.

Levine, S.C. (November 2012) Individual differences in mathematical development during the preschool years: Effects of input variations. Harris School of Public Policy, University of Chicago.

Levine, S.C. (January 2013). Infant coding of amount: A precursor of proportional reasoning. SILC Workshop on Spatial Underpinnings to Concept Formation in Infancy. La Jolla, CA

Congdon, E.L, Kwon, M., Ping, R., & Levine, S.L. (February 2013) *Improving Linear Measurement: Children Learn Differentially from Gesture versus Action Training Sessions*. Talk to be presented at the 6th Annual Inter-Science of Learning Conference, Philadelphia, Pennsylvania.

Levine, S.C. (February 2013) Individual differences in mathematical development during the preschool years: Effects of input variations. Department of Psychology, University of Maryland.

Levine, S.C. (February, 2013). Promoting team science: Helping junior faculty safely participate. Council of Graduate Departments of Psychology, Pacific Beach, CA.

Congdon, E.L., Gibson, D., Levine, S.L. (April 2013) *Spatial Language and Misconceptions in Mathematics*. In Nicole Scott (chair) *Spatial Reasoning, Language, and the Brain* symposium. Talk presented at the Biannual Meeting of the Society for Research on Child Development, Seattle, Washington.

- Gunderson, E. A., Spaepen, E., Giansesin, C., Norton, E., Goldin-Meadow, S., & Levine, S. C. (April 2013). Input effects on successor function understanding: An experimental training study. Talk accepted for presentation at the Society for Research on Child Development Biennial Meeting, Seattle, WA.
- Ping, R. M., Bradley, C., Rayman-Kinney, J. & Levine, S. C. (April, 2013). Parent use of spatial language with boys and girls during puzzle play. SRCD Biennial Meeting, April 2013, Seattle, WA.
- Smith, L., Ping, R. M., Goldwater, M., Matlen, B., Levine, S. C. & Gentner, D. (April, 2013). Comparison and contrast in young children's shape categorization. SRCD Biennial Meeting, April 2013, Seattle, WA.
- Gibson, D., Congdon, E., & Levine, S.C. (April, 2013). Training preschool children on angles through mutual exclusivity. SRCD Biennial Meeting, April 2013, Seattle, WA.
- Levine, S.C. (May, 2013) Early sensitivity to proportion: A potential scaffold to later fraction understanding. Translating Mind Brain and Education, Universidad San Francisco de Quito, International Mind, Brain and Education Society.
- Levine, S.C. (June 2013). Early sensitivity to proportion: A potential scaffold to later fraction understanding. Paper presented at the International Mind, Brain, and Education Conference, Quito, Ecuador.
- Möhring, W., Newcombe, N.S., Levine, S.C., & Frick, A. (July, 2013). A sense of proportion? Spatial proportional reasoning is associated with formal knowledge about fractions. 16th European Conference on Developmental Psychology. Lausanne, Switzerland.
- Levine, S.C. (July 2013). Individual differences in early mathematical development. Chicago Mercantile Exchange Group Foundation Early Math Education Conference.
- Levine, S.C., Maloney, E., Ramirez, G., Gunderson, E.A. & Beilock, S.L. (Sept. 2013). How the math anxiety of teachers, parents, and children themselves relate to the math achievement of 1st and 2nd grade girls and boys. Society for Research on Educational Effectiveness (SREE), Washington, D.C.
- Levine, S.C. (September 2013). From the lab to the classroom and back: A research strategy for enhancing STEM learning. IES Conference, Washington, D.C.
- Levine, S.C. (November 2013). Individual differences in young children's math learning: Cognitive and Emotional Factors. Boston College Distinguished Seminar Series on Mathematical Development, Inaugural Speaker.
- Levine, S.C. (January 2014). Variations in preschool children's math knowledge: "Math talk" matters. Department of Education, UCLA.
- Levine, S.C. (January 2014). Development of spatial thinking in young children: Spatial talk and gesture matter. NSF-Sponsored Spatial Language Conference, UCSD.
- Levine, S.C. (March 2014). Contribution of teachers' and parents' math anxieties to children's math learning. International Convention on Science of Learning, Shanghai, China.

- Levine, S.C. (March 2014). Relation of parents' number and spatial talk to preschool childrens' numerical and spatial thinking. International Convention on Science of Learning, Shanghai, China.
- Levine, S.C. (March 2014). From the lab to the classroom and back: A research strategy for enhancing STEM learning. International Convention on Science of Learning, Shanghai, China.
- Levine, S.C. (June 2014). Young Children's Math Learning: Cognitive and Emotional Factors, Invited talk for the 10th Anniversary Celebration, Ministry of Education, Oslo, Norway.
- Levine, S.C. (June 2014). Mathematical Development in Young Children: Promising Interventions, Invited talk, Ministry of Education Symposium, Oslo, Norway.
- Levine, S.C. (June 2014). Young Children's Math Learning: Cognitive and Emotional Factors, Invited talk, University of Oslo, Oslo, Norway.
- Congdon, E.L., Novack, M.A., Gibson, D., Levine, S.C., & Goldin-Meadow, S. (July 2014). Does Early Gesture Production Predict Later Spatial Thinking? Talk presented at the 6th Biennial International Conference on Gesture Studies. San Diego, California.
- Young, C.J., Cartmill, E.A., Levine, S.C., and Goldin-Meadow, S. (July, 2014). Gesture and Speech Input are Interlocking Pieces: The Development of Children's Jigsaw Puzzle Assembly Ability. *Talk presented at the 36th Annual Meeting of the Cognitive Science Society*, Quebec, Canada.
- Möhring, W., Newcombe, N.S., Levine, S.C., & Frick, A. (September 2014) A Matter of Proportions: Spatial Scaling is Related to Proportional Reasoning in 4- and 5-Year-Olds. Spatial Cognition, Bremen Germany.
- Smith, L., Ping, R., Matlen, B., Goldwater, M., Gentner, D., & Levine, S.C. (September 2014) Mechanisms of Spatial Learning: Teaching Children Geometric Categories. Spatial Cognition, Bremen, Germany.
- Levine, S.C., Petersen, L., & Ping, R. (January 2015). Parent spatial language inequity during spatial play. NSF-Sponsored Spatial Language Conference, UCSD.
- Gunderson, E.A., Park, D., Beilock, S.L. & Levine, S.C. (February 2015) Fixed mindsets in early elementary school lead to academic stereotypes, math anxieties, and lower achievement. Society for Personality and Social Psychology, Long Beach, CA.
- Levine, S.C. Gunderson, E.A., Maloney, E., Ramirez, G., & Beilock, S. (March 2015). The role of parents in young children's math learning: Cognitive and emotional factors. Society for Research on Child Development, Philadelphia, PA.
- Petersen, L. & Levine, S.C. (March 2015). The role of spontaneous block play on children's math knowledge. Society for Research on Child Development, Philadelphia, PA.

Levine, S.C. (May, 2015). Early Mathematical Development: Cognitive and Emotional Factors, Massachusetts General Hospital, Department of Neuropsychology, Boston, MA.

Levine, S. C., Ping, R., Petersen, L., Khetarpl, N., Pruden, S., Schiffman, J. & Pinchuk, R. (September, 2015). Variations in parents' spatial language predict children's spatial skill: Relation to child gender. International Conference on Spatial Cognition. Rome, Italy.

Levine, S.C. (October, 2015). Using cognitive science to support children's learning. Invited talk, Cognitive Development Society, Columbus, Ohio.