

Lynn S. Liben

Evan Pugh University Professor
Professor of Psychology; Human Development; and Education
The Pennsylvania State University
509 Moore Building ~ University Park, PA 16802
liben@psu.edu ~ 814.863.1718

EDUCATION

- 1972 Ph.D., University of Michigan, Developmental Psychology
1968 B.A., Cornell University; distinction in all subjects; *magna cum laude* in psychology

POSITIONS AT PENN STATE

- 2018- Evan Pugh University Professor
2016- Professor of Psychology; Human Development; and Education
2016-2018 McCourtney Professor of Child Studies
1998-2016 Distinguished Professor of Psychology; Human Development; and Education
1998-2001 Founding Director, Child Study Center
1987-1998 Head, Department of Psychology
1982-1998 Visiting Associate Professor (1982) to Professor (1984-1998), Department of Psychology
1976-1980 Associate Professor, Division of Individual and Family Studies

POSITIONS OUTSIDE PENN STATE

- Spring 2019 Visiting Scholar, STEM Education Research Centre (SERC), Faculty of Education, University of Canberra, Bruce ACT 2601 Australia
Spring 2012 Visiting Scholar, Department of Applied Psychology, Steinhardt School of Culture, Education, and Human Development; New York University
Fall 2009 Guest Professor, Department of Economics and Behavioral Sciences; Albert Ludwigs University, Freiburg, Germany
Spring 2004 Visiting Professor, City University of New York, Graduate Center
Spring 1996 Visiting Fellow, National Geographic Society
Winter 1989 Visiting Scholar, Project Zero, Graduate School of Education, Harvard University
1980-1982 Associate Professor Department of Psychology; Research Associate, Learning Research and Development Center, University of Pittsburgh
1972-1976 Assistant Professor, Center for Development, Learning, and Instruction (Graduate School of Education and Human Development) and Department of Psychology, University of Rochester

GRANTS

National Science Foundation: "Designing innovative guided play experiences to empower parents and engage children in STEM learning" Co-PI 2018-2022.

National Science Foundation: "Addressing the STEM gender gap: Does spatial training enhance middle-school girls' STEM-relevant spatial skills, attitudes, beliefs, and interests?" PI 2011-2017.

National Geographic Society: "Addressing the National Geographic Bee Gender Gap through Research and Intervention" PI 2010-2014.

National Science Foundation: "Constructing Mental Images of Geologic Structures from Field Observations" PI 2004-2010.

National Science Foundation: "SGER: Investigating Map Understanding and Learning in the Context of a Family Museum Exhibit" PI 2006-2007.

National Science Foundation: "Map and Spatial Skills of Children and Teachers" PI 2001-2005.

Social Science Research Council: Program on the Arts, "Human Development and the Arts: A Photographic Perspective" Director. 2001-2002.

National Science Foundation (via TERC): "Visualizing Earth" Co-PI, Director of the Cognitive Analysis of Visualization in Education Group. 1995-1999.

National Geographic Society: "Geography and Gender: Differential Participation and Success Rates on the Geography Bee." Project Director, 1992-1995. Follow-up grant: 2000-2002.

NICHHD "Sex Hormone Replacement Therapy & Adolescent Behavior" Co-Investigator 1991-1995.

College of Health & Human Development Interdisciplinary Research Grant: "Sex Hormone Replacement Therapy: Effects on Adolescent Behavior," Co-Investigator 1990.

National Institute of Education, Teaching and Learning Program Research Grant: "Children's Production and Comprehension of Maps: Increasing Graphic Literacy," PI 1983-1985.

Department of Education, Doctoral Training Grant: "Psychological Foundations of Special Education," Project Director 1983-1986.

Office of Education, Doctoral Training Grant: "Developmental Psychology Specialists for Handicapped Children," Project Director: 1982-1985.

NIH Biomedical Research Support Grant "Studies in Spatial Cognition," 1980-1982.

Bureau for the Education of the Handicapped, Graduate Training Grant: "Predoctoral Preparation in Applied Interdisciplinary Research," Acting (1978-1979) & Associate (1977-1978) Project Director.

The William T. Grant Foundation and the Society for Research in Child Development, Interdisciplinary Study Group Grant: "Theoretical and Practical Implications of Research on the Development of Deaf Children," 1974-1976.

National Institute of Mental Health, Predoctoral Research Fellowship: "Developmental Studies in Cognition," 1969-1972.

United States Public Health Service, Traineeship in Developmental Psychology, University of Michigan, (awarded 1968-1972) 1968-1969.

SELECTED ACADEMIC HONORS

Lansdowne Scholar Award, U of Victoria; Distinguished Women Visitors Award, Carleton College; Schreyer Honors College Excellence in Teaching Award, Penn State; Faculty Scholar Medal for Outstanding Achievement, Penn State; Distinction in the Social Sciences Award, College of the Liberal Arts, Penn State; Fellow, American Psychological Association (Divisions 1, 3, 7, 15); Charter Fellow, Association for Psychological Science; Charter Fellow; American Educational Research Association; Fellow, Eastern Psychological Association, Woodrow Wilson Fellow; Sigma Xi; Psi Chi; Phi Beta Kappa

SELECTED CURRENT AND PAST EDITORIAL POSITIONS

Editor: *Monographs of the Society for Research in Child Development* (2018-2022); *Monograph Matters* (2018-2022); *Child Development*; (2002-2008); *Journal of Experimental Child Psychology* (1983-2002); *Jean Piaget Society Book Series* (1981-1991)

Editorial Boards: *American Journal of Education*; *Child Development*; *Children, Youth and Environments*; *Current Directions in Psychological Science*; *Developmental Psychology*; *Genetic Epistemologist*; *Journal of Applied Developmental Psychology*; *Journal of Experimental Child Psychology*; *Psychological Bulletin*; *Sex Roles*; *Spatial Cognition and Computation*

SELECTED CONSULTANCIES, ADVISORY POSITIONS

Children's Television Workshop (Sesame Street; 3-2-1- Contact); *Highlights for Children*; New York State Department of Education (reviews of doctoral level graduate programs); Advisory Boards: "Where Are We?" Project, Lamont-Doherty Earth Observatory of Columbia University; "Seeing Exhibit," *Exploratorium*, San Francisco; Cornell Institute for Research on Children (CIRC); "Maps: Tools for Adventure", Indianapolis Children's Museum; Discovery Place, State College, PA; *The Ultimate Block Party*, Temple University; "Bridging the Gap," Teacher's College, Columbia University; National Geographic Society: Roadmap for Geographic Education Research

SELECTED CURRENT AND PAST POSITIONS IN SOCIETIES & NATIONAL COMMITTEES

Presidencies (years span terms as President-Elect, President, and Past-President)

American Psychological Association (APA), Division of Developmental Psychology (1993 -1999)
Jean Piaget Society (1979 -1985)
Society for Research in Child Development (2011- 2017)
Society for the Study of Human Development (2019 - 2025)

Selected Additional Positions

American Council for Co-Educational Schooling:
Director of Research; Board of Directors
American Psychological Association (APA), Division of Developmental Psychology
Fellows Selection Committee; Executive Committee; Convention Program (Chair); Secretary-Treasurer; Coalition for Psychology in Schools and Education
Association for Psychological Science
Human Capital Initiative Steering Committee; Publications Committee; Summit of Psychological Science Societies Steering Committee
Council of Graduate Departments of Psychology (COGDOP)
Executive Board; Liaison to APA Board of Scientific Affairs
Jean Piaget Society
Vice-President; Board of Directors
National Academy of Sciences
Board of Science Education; National Research Council Committees: Support for Thinking Spatially; Out of School STEM Learning
National Institutes of Health;
Behavioral & Neurosciences Study Section; Life Course Review Committee
National Science Foundation:
Committee of Visitors; Panels: Developmental & Learning Sciences; Teacher/Instructional Materials; Transitions from Childhood to the Workforce Blue Ribbon Panel
Society for Research in Child Development
Publications Committee (Chair); Equity and Justice Committee; Finance Committee; Task Force on the Common Rule
Social Science Research Council
Committee on the Arts (Chair)

PUBLICATIONS: Journal Articles and Book Chapters

Hilliard, L. J., & Liben, L. S. (2021). Parental socialization about sexism: Do socialization beliefs match behavior? *Research in Human Development, 18* (4), 274-294. <https://doi.org/10.1080/15427609.2021.2025014>
Bower, C. A. & Liben, L. S. (2021). Can a domain-general spatial intervention facilitate children's science learning? A lesson from astronomy. *Child Development, 29* (1), 76-100. DOI: 10.1111/cdev.13139.
Schroeder, K. M., & Liben, L. S. (2021). Felt pressure to conform to cultural Gender Roles: Correlates and consequences. *Sex Roles, 84*, 125-138. <https://doi.org/10.1007/s11199-020-01155-9>

- Hilliard, L. J. & Liben, L. S. (2020). Addressing sexism with children: Young adults' beliefs about bias socialization. *Child Development, 91*, 488-507. <https://doi.org/10.1111/cdev.13230>
- Bigler, R. S., & Liben, L. S. (2020). The interplay of developing morality and gender attitudes. In L. A. Jensen (Ed.), *The Oxford Handbook of Moral Development: An Interdisciplinary Perspective* (pp. 725-745). Oxford, UK: Oxford University Press. DOI: [10.1093/oxfordhb/9780190676049.013.42](https://doi.org/10.1093/oxfordhb/9780190676049.013.42)
- Coyle, E. F. & Liben, L. S. (2020). Gendered packaging of a STEM toy influences children's play, mechanical learning, and mothers' play guidance. *Child Development, 91*(1), 43-62. DOI: [10.1111/cdev.13139](https://doi.org/10.1111/cdev.13139).
- Ribner, A. D., Tamis-LeMonda, C. S., & Liben, L. S. (2020). Mothers' distancing language relates to young children's math and literacy skills. *Journal of Experimental Child Psychology, 196*, 104863, 1-11. <https://doi.org/10.1016/j.jecp.2020.104863>
- Liben, L. S., Schroeder, K. M., Borriello, G. A., & Weisgram, E. S. (2018). Cognitive consequences of gendered toy play. In E. S. Weisgram & L. M. Dinella (Eds.), *Gender-typing of children's toys* (pp. 213-255). Washington, D.C.: American Psychological Association.
- Borriello, G. A. & Liben, L. S. (2018). Encouraging maternal guidance of preschoolers' spatial thinking during block play, *Child Development, 89* (4), 1209-1222. DOI: [10.1111/cdev.12779](https://doi.org/10.1111/cdev.12779)
- Liben, L. S. (2017). A cognitive-developmental perspective on maps in children's literature. In N. Goga & B. Kümmerling-Meibauer (Eds.), *Maps and mapping in children's literature: Landscapes, seascapes, and cityscapes* (pp. 17-39). Amsterdam: John Benjamins.
- Müller, U., & Liben, L. S. (2017). Introduction: Natural spaces and development. *Children, Youth and Environments, 27*(2), 1-6.
- Liben, L. S. & Coyle, E. F. (2017). Gender development: A relational approach. In A. S. Dick & U. Müller (Eds.), *Advancing developmental science: Philosophy, theory, and method* (pp. 170-184). London: Routledge; Taylor and Francis Group.
- Liben, L. S. (2017). Gender development: A constructivist-ecological perspective. In N. Budwig, E. Turiel, & P. D. Zelazo, (Eds.). *New perspectives on human development* (pp. 145-164). Cambridge, UK: Cambridge University Press.
- Liben, L. S. & Bigler, R. S. (2017). Understanding and undermining the development of gender dichotomies: The legacy of Sandra Lipsitz Bem. *Sex Roles, 76*, 544-555.
- Coyle, E. F., & Liben, L. S. (2016). Affecting girls' job and activity interests through play: The moderating roles of personal gender salience and game characteristics. *Child Development, 87*, 414-428.
- Liben, L. S. (2016). We've come a long way baby (But we're not there yet): Gender past, present, and future. *Child Development, 87*, 5-28.
- Plummer, J. D., Bower, C. A., & Liben, L. S. (2016). The role of perspective taking in how children connect reference frames when explaining astronomical phenomena. *International Journal of Science Education, 38*(3), 345-365.
- Liben, L. S. (2015). The STEM gender gap: The case for spatial interventions. *International Journal of Gender, Science, and Technology, 7*, 133-150.
- Liben, L. S. & Müller, U. (2015). Reflections on cognitive development. In L.S. Liben & U. Müller (Eds.). *Cognitive processes*. Volume 2 of the *Handbook of child psychology and developmental science* (7th ed.; pp. 1-8). Hoboken, NJ: Wiley.
- Liben, L. S. (2015). Probability values and human values in evaluating single-sex education, *Sex Roles, 72*, 401-426.
- Liben, L. S., & Downs, R. M. (2015). Map use skills. In M. Monmonier (Ed.), *Cartography in the twentieth century* (pp. 1074-1080). Chicago: University of Chicago Press.
- Liben, L. S. & Bowman, C. R. (2014). The development of memory from a Piagetian perspective. In P. J. Bauer & R. Fivush (Eds.) *The Wiley handbook on the development of children's memory* (pp. 65-86). Malden MA: Wiley-Blackwell.
- Liben, L. S., Bigler, R. S., & Hilliard, L. J. (2014). Gender development: From universality to individuality. In E.T. Gershoff, R. S. Mistry, & D. A. Crosby (Eds.) *Societal contexts of child development: Pathways of influence and implications for practice and policy* (pp. 3-18). New York: Oxford University Press.
- Hilliard, L. J. & Liben, L. S. (2014). Fairness in the face of gender stereotypes: Examining the nature and impact of mother-child conversations. In C. Wainryb & H. E. Recchia (Eds.). *Talking about right and wrong: Parent-child conversations as contexts for moral development* (pp.168-192). Cambridge: Cambridge University Press.

- Liben, L. S. (2014). Perceiving and representing horizontals: From laboratories to natural environments and back again. *Ecological Psychology, 26*, 158-166.
- Quinn, P. C. & Liben, L. S. (2014). A sex difference in mental rotation in infants: Convergent evidence. *Infancy, 19*, 103-116.
- Liben, L. S., & Coyle, E. J. (2014). Developmental interventions to address the STEM gender gap: Exploring intended and unintended consequences. In L. S. Liben & R. S. Bigler (Eds.) *The role of gender in educational contexts and outcomes*. Volume 47 of *Advances in child development and behavior* (pp. 77-115). San Diego: Elsevier.
- Bigler, R. S., Hayes, A. R., & Liben, L. S. (2014). Analysis and evaluation of the rationales for single-sex schooling. In L. S. Liben & R. S. Bigler (Eds.) *The role of gender in educational contexts and outcomes*. Volume 47 of *Advances in child development and behavior*. (pp. 225-260). San Diego: Elsevier.
- Liben, L. S. (2014). The individual ↔ context nexus in developmental intergroup theory: Within and beyond the ivory tower. *Research in Human Development, 11*, 273-290.
- Liben, L. S., Myers, L. J., Christensen, A. E., & Bower, C. A. (2013). Environmental-scale map use in middle childhood: Links to spatial skills, strategies, and gender. *Child Development, 84*, 2047-2063.
- Halpern, D. F., Eliot, L., Bigler, R. S., Fabes, R. A., Hanish, L. D., Hyde, J., Liben, L. S., & Martin, C. L. (2012). Response to letters on the pseudoscience of single-sex schooling. *Science, 335*, 166-168.
- Liben, L. S. & Titus, S. (2012). The importance of spatial thinking for geoscience education: Insights from the crossroads of geoscience and cognitive science. In K. A. Kastens & C. A. Manduca (Eds.), *Earth and mind II: A synthesis of research on thinking and learning in the geosciences*. The Geological Society of America, Boulder, CO, Special paper 486, 51-70.
- Myers, L. J., & Liben, L. S. (2012). Graphic symbols as "The mind on paper": Links between children's interpretive theory of mind and symbol understanding. *Child Development, 83*, 186-202.
- Liben, L. S., Kastens, K. A., & Christensen, A. E. (2011). Spatial foundations of science education: The illustrative case of instruction on introductory geological concepts. *Cognition and Instruction, 29*, 45-87.
- Halpern, D. F., Eliot, L., Bigler, R. S., Fabes, R. A., Hanish, L. D., Hyde, J., Liben, L. S., & Martin, C. L. (2011). The pseudoscience of single-sex schooling. *Science, 333*, 1706-1707.
- Li, R., Klippel, A., Liben, L. S., & Christensen, A. E. (2011). The impacts of environment and individual differences on spatial orientation in a mobile context. *Proceedings of the Workshop of Cognitive Engineering for Mobile GIS, COSIT, 780*, 9-16.
- Liben, L. S., (2010). *I am pleased to accept your manuscript*: Publishing your research on child and adolescent development. In V. Maholmes & C. Lomonaco (Eds.), *Applied research in child and adolescent development: A practical guide* (pp. 265-300). New York: Taylor & Francis.
- Weisgram, E. S., Bigler, R. S., & Liben, L. S. (2010). Gender, values, and occupational interests among children, adolescents, and adults. *Child Development, 81*, 778-797.
- Liben, L. S., Myers, L. M., & Christensen, A. E. (2010). Identifying locations and directions on field and representational mapping tasks: Predictors of success. *Spatial Cognition and Computation, 10*, 105-134.
- Liben, L. S., & Christensen, A. E. (2010). Spatial development: Evolving approaches to enduring questions. In U. Goswami (Ed.), *Blackwell handbook of childhood cognitive development, Second Ed.* (pp. 326-348). Oxford, UK: Wiley-Blackwell Publishers.
- Liben, L. S., Christensen, A. E., & Kastens, K. A. (2010). Gestures in geology: The roles of spatial skills, expertise, and communicative context. In C. Hölscher, T.F. Shipley, M. Olivetti, J. Bateman, & N. S. Newcombe (Eds.), *Spatial cognition VII. LNCS* (pp. 95-111). Heidelberg: Springer-Verlag.
- Münzer, S., Christensen, A. E., & Liben, L. (2010). Finding your way around the environment: Differences and similarities across countries in self-reports. In D. Rapp (Ed.), *Poster Proceedings of International Conference on Spatial Cognition 2010*, 66. Mt. Hood, Oregon.
- Hilliard, L. J., & Liben, L. S. (2010). Differing levels of gender salience in preschool classrooms: Effects on children's gender attitudes and intergroup bias. *Child Development, 81*, 1787-1798.
- Kastens, K. A., & Liben, L. S. (2010). Children's strategies and difficulties while using a map to record locations in an outdoor environment. *International Research in Geographical and Environmental Education, 19*, 315-340.

- Liben, L. S. (2010). Sex differences in children: The continuing quest to understand and modify them. *Essay Review, Human Development, 53*, 363-368.
- Liben, L. S. (2009). Giftedness during childhood: The spatial-graphic domain. In F. Horowitz, R. Subotnik, & D. Matthews (Eds.), *Incorporating conceptions of giftedness into theories and research on child, adolescent, and adult development* (pp. 59-74). Washington, D.C.: American Psychological Association.
- Kastens, K. A., Agrawal, S. & Liben, L. S. (2009). How students and field geologists reason in integrating spatial observations from outcrops to visualize a 3-D geological structure. *International Journal of Science Education, 31*, 365-394.
- Kastens, K.A., Manduca, C. A., Cervato, C., Frodeman, R., Goodwin, C., Liben, L. S., Mogk, D. W. Spangler, T. C., Stillings, N. A., & Titus, S. (2009). How geoscientists think and learn, *EOS, Transactions, American Geophysical Union, 90*, 265-272
- Lamb, L. M., Bigler, R. S., Liben, L. S., & Green, V. A. (2009). Teaching children to confront peers' sexist remarks: Implications for theories of gender development and educational practice. *Sex Roles, 61*, 361-382.
- Liben, L. S. (2009). The road to understanding maps. *Current Directions in Psychological Science, 18*, 310-315.
- Liben, L. S. (2008). Representational development and the embodied mind's eye. In W. F. Overton, U. Mueller, & J. L. Newman (Eds.), *Body in mind, mind in body: Developmental perspectives on embodiment and consciousness* (pp. 191-224). New York: Lawrence Erlbaum Associates.
- Arthur, A., Bigler, R. S., Liben, L. S., Gelman, S. & Ruble, D. (2008). Gender stereotyping and prejudice in young children: A developmental intergroup perspective. In S. Levy & M. Killen (Eds.), *Intergroup Attitudes and Relations in Childhood through Adulthood* (pp. 66-86). Oxford, UK: Oxford University Press.
- Liben, L. S. (2008). Developing children's appreciation of photographs as informative and aesthetic artifacts. In C. Milbrath & H. M. Trautner (Eds.) *Children's understanding and production of pictures, drawing, and art: Theoretical and empirical approaches* (pp. 155-184). Cambridge, MA: Hogrefe & Huber.
- Liben, L. S. & Bigler, R. S. (2008). Developmental gender differentiation: Pathways in conforming and nonconforming outcomes. Published simultaneously in *Journal of Gay & Lesbian Mental Health, 12*, 95-119 and in R. M. Mathy & J. Drescher, Eds., *Childhood gender nonconformity and the development of adult homosexuality* (pp. 95-119). Binghamton, NY: Haworth Press.
- Myers, L. J. & Liben, L. S. (2008). The role of intentionality and iconicity in children's developing comprehension and production of cartographic symbols. *Child Development, 79*, 668-684.
- Liben, L. S., Myers, L.J., & Kastens, K. A. (2008). Locating oneself on a map in relation to person qualities and map characteristics. In C. Freksa, N. S. Newcombe, P. Gärdenfors, & S. Wölfl (Eds.), *Locating oneself on a map in relation to person qualities and map characteristics e.* (pp. 171-187). Heidelberg: Springer-Verlag.
- Kastens, K. A., Liben, L. S., & Agrawal, S. (2008). Epistemic actions in science education. In C. Freksa, N. S. Newcombe, P. Gärdenfors, & S. Wölfl (Eds.), *Spatial cognition VI: Learning, reasoning, and talking about space* (pp. 202-215). Heidelberg: Springer-Verlag.
- Quinn, P. C., & Liben, L. S. (2008). A sex difference in mental rotation in young infants. *Psychological Science, 19*, 1067-1070.
- Liben, L. S. (2008). Reflections on child development: The journal and the field. *Child Development, 79*, 1597-1599.
- Liben, L. S. (2008). Continuities and discontinuities in children and scholarship. *Child Development, 79*, 1600-1605.
- Kastens, K. A., Agrawal, S. & Liben, L. S. (2008). Research in science education: The role of gestures in geoscience teaching and learning. *Journal of Geoscience Education, 54*, 262-268.
- Liben, L. S. (2008). Understanding maps: Is the purple country on the map really purple? *Knowledge Quest, 36* (4), 20-30.
- Kastens, K. A. & Liben, L. S. (2007). Eliciting self-explanations improves children's performance on a field-based map skills task. *Cognition and Instruction, 25*, 45-74.
- Liben, L. S. & Myers, L. J. (2007). Children's understanding of maps: What develops? In J. Plumert & J. Spencer (Eds.), *The emerging spatial mind* (pp. 193-218). Oxford, UK: Oxford University Press.

- Szechter, L. E., & Liben, L. S. (2007). Children's aesthetic understanding of photographic art and the quality of art-related parent-child interactions. *Child Development, 78*, 879-894.
- Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science, 16*, 162-166.
- Liben, L. S., & Szechter, L. S. (2007). Children's photographic eyes: A view from developmental psychology. *Visual Arts Research, 34*, 71-83. (Also published in Dutch in *Cultuur & Educatie, 15*, 31-49.)
- Liben, L. S. (2006). Education for spatial thinking. In W. Damon & R. Lerner (Series Eds.) and K. A. Renninger & I. E. Sigel (Vol. Eds.), *Handbook of child psychology, sixth edition, volume four: Child psychology in practice* (pp. 197-247). Hoboken, NJ: Wiley.
- Bigler, R. S., & Liben, L. S. (2006). A developmental intergroup theory of social stereotypes and prejudice. In R. V. Kail (Ed.), *Advances in child development and behavior* (Vol. 34, pp. 39-89). San Diego: Elsevier.
- Quintana, S. M., Aboud, F. E., Chao, R. K., Contreras-Grau, J., Cross, W. E., Hudley, C., Hughes, D., Liben, L. S., Nelson-Le Gall, S., & Vietze, D. L. (2006). Race, ethnicity, and culture in child development: Contemporary research and future directions. *Child Development, 77*, 1129-1141.
- Liben, L. S. (2005). The role of action in understanding and using environmental place representations. In J. Rieser, J. Lockman, & C. Nelson (Eds.), *Action as an organizer of learning and Development. The Minnesota Symposium on Child Development*. (pp. 323- 361). Mahwah, NJ: Lawrence Erlbaum Associates.
- Liben, L. S. (2005). Appreciating the meaning and aesthetics of spatial graphic representations during childhood. In L. Balter & C. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 263-292). New York: Psychology Press.
- Szechter, L. E. & Liben, L. S. (2004). Parental guidance in preschoolers' understanding of spatial-graphic representations. *Child Development, 75*(3), 869-885.
- Bigler, R. S., Averhart, C. J., & Liben, L. S. (2003). Race and the work force: Occupational status, aspirations, and stereotyping among African American children. *Developmental Psychology, 39*, 572-580.
- Liben, L. S. (2003). Extending space: Exploring the expanding territory of spatial development. *Essay Review, Human Development, 46*, 61-68.
- Liben, L. S. (2003). Beyond point and shoot: Children's developing understanding of photographs as spatial and expressive representations. In R. V. Kail (Ed.), *Advances in child development and behavior* (Vol. 31, pp. 1 - 42). San Diego: Elsevier.
- Langlois, J. H. & Liben, L. S. (2003). Child care research: An editorial perspective. *Child Development, 74*. 969-975.
- Liben, L. S. & Downs, R. M. (2003). Investigating and facilitating children's graphic, geographic, and spatial development. *Journal of Applied Developmental Psychology, 24*, 663-679.
- Liben, L. S., Susman, E. J., Finkelstein, J. W., Chinchilli, V. M., Kunselman, S. J., Schwab, J., Dubas, J. Semon, Demers, L. M., Lookingbill, G., D'Arcangelo, M. R., Krogh, H. R., Kulin, H. E. (2002). The effects of sex steroids on spatial performance: A review and an experimental clinical investigation. *Developmental Psychology, 38*, 236-253.
- Liben, L. S., Bigler, R. S., & Krogh, H. R. (2002). Language at work: Children's gendered interpretation of occupational titles. *Child Development, 73*, 810-828.
- Liben, L.S., Kastens, K. A., & Stevenson, L. M. (2002). Real-world knowledge through real-world maps: A developmental guide for navigating the educational terrain. *Developmental Review, 22*, 267-322.
- Liben, L. S. & Szechter, L. S. (2002). A social science of the arts: An emerging organizational initiative and an illustrative investigation of photography. *Qualitative Sociology, 25*, 385-408.
- Liben, L. S. (2002). The drama of sex differences in academic achievement: And the show goes on. *Issues in Education, 8*, 65-75.
- Liben, L. S. (2002). Spatial development in children: Where are we now? In U. Goswami (Ed.), *Blackwell handbook of childhood cognitive development* (pp. 326-348). Oxford, UK: Blackwell Publishers.
- Liben, L. S., & Bigler, R. S. (2002). Extending the study of gender differentiation. *Monographs of the Society for Research in Child Development, 67* (2, Serial No. 269), 179-183.
- Liben, L. S. (2001). Thinking through maps. In M. Gattis (Ed.), *Spatial schemas and abstract thought*, (pp. 44-77). Cambridge, MA: MIT Press.

- Liben, L. S. & Downs, R. M. (2001). Geography for young children: Maps as tools for learning environments. In S. L. Golbeck (Ed.), *Psychological perspectives on early childhood education* (pp. 220-252). Mahwah, NJ: Lawrence Erlbaum Associates.
- Liben, L. S., Bigler, R. S., & Krogh, H. K. (2001). Pink and blue collar jobs: Children's judgments of job status and job aspirations in relation to sex of worker. *Journal of Experimental Child Psychology*, 79, 346-363.
- Schwab, J., Kulin, H. E., Susman, E. J., Finkelstein, J. W., Chinchilli, V. M., Kunselman, S. J., Liben, L. S., D'Arcangelo, M. R., Demers, L. (2001). The role of sex hormone replacement therapy on self-perceived competence in adolescents with delayed puberty. *Child Development*, 72, 1439-1450.
- Krogh, H.R. & Liben, L.S. (2001). Review of N. G. Johnson, M. Roberts, & J. Worell (Eds.), *Beyond appearance: A new look at adolescent girls*. *Sex Roles*, 44, 621-623. Liben, L. S. (2000). Map use and the development of spatial cognition: Seeing the *bigger picture*. *Developmental Science*, 3, 270-274.
- Finkelstein, J.W., D'Arcangelo, R.M., Susman, E.J., Chinchilli, V.M., Kunselman, S. J., Schwab, J., Demers, L.M., Liben, L.S., & Kulin, H.E. (1999). Self-assessment of physical sexual maturation in boys and girls with delayed puberty. *Journal of Adolescent Health*, 25, 379-381.
- Liben, L. S. (1999) Developing an understanding of external spatial representations. In I. E. Sigel (Ed.), *Development of mental representation: Theories and applications* (pp. 297-321). Mahwah, NJ: Lawrence Erlbaum Associates.
- Finkelstein, J.W., Susman, E.J., Chinchilli, V.M., D'Arcangelo, M.R., Kunselman, S.J., Schwab, J., Demers, L.M., Liben, L.S. & Kulin, H.E. (1998). Effects of Estrogen and Testosterone on self-reported sexual responses and behaviors in hypogonadal adolescents. *Journal of Clinical Endocrinology and Metabolism*, 83, 2281-2285.
- Lewkowicz, C. J., & Liben, L. S. (1998). The development of deaf and hearing children's sex-role attitudes and self-endorsements. In A. Weisel (Ed.), *Issues unresolved: New perspectives on language and deaf education* (pp. 215-230). Washington, DC: Gallaudet University Press.
- Susman, E.J., Finkelstein, J.W., Chinchilli, V.M., Schwab, J., Liben, L.S., D'Arcangelo, R.M., Meinke, J., Demers, L.M., Lookingbill, G. & Kulin, H.E. (1998). The effect of sex hormone replacement therapy on behavior problems and moods in adolescents with delayed puberty. *The Journal of Pediatrics*, 133, 521-525.
- Liben, L. S., & Downs, R. M. (1997). Canism and can'tianism: A straw child. *Annals of the Association of American Geographers*, 87, 159-167.
- Downs, R. M., & Liben, L. S. (1997). The final summation: The defense rests. *Annals of the Association of American Geographers*, 87, 178-180.
- Signorella, M. L., Bigler, R. S., & Liben, L. S. (1997). A meta-analysis of children's memories for own-sex and other-sex information. *Journal of Applied Developmental Psychology*, 18, 429-445.
- Finkelstein, J. W., Susman, E. J., Chinchilli, V. M., Kunselman, S. J., D'Arcangelo, M. R., Schwab, J., Demers, L. M., Liben, L. S., Lookingbill, G., Kulin, H. E. (1997). Estrogen or testosterone increases self-reported aggressive behaviors in hypogonadal adolescents. *The Journal of Clinical Endocrinology & Metabolism*, 82, 2433-2438.
- Merriwether, A. M., & Liben, L. S. (1997). Adults' failures on Euclidean and projective spatial tasks: Implications for characterizing spatial cognition. *Journal of Adult Development*, 4, 57-69.
- Liben, L. S. (1997). Standing on the shoulders of giants or collapsing on the backs of straw men? *The Developmental Psychologist*, Fall, 2-14.
- Downs, R. M., & Liben, L. S. (1997). Geography and the development of spatial understanding. In R. G. Boehm & J. F. Petersen (Eds.) *The first assessment: Research in geographic education*. (pp. 20-44). Gilbert M. Grosvenor Center for Geographic Education, Southwest Texas State University: San Marcos, Texas.
- Liben, L. S. (1997). Children's understanding of spatial representations of place: Mapping the methodological landscape. In N. Foreman & R. Gillett (Eds.), *A handbook of spatial research paradigms and methodologies*. (pp. 41-83). East Sussex, UK: Psychology Press, Taylor & Francis Group.
- Liben, L. S., & Yekel, C. A. (1996). Preschoolers' understanding of plan and oblique maps: The role of geometric and representational correspondence. *Child Development*, 67, 2780-2796.
- Vasta, R., & Liben, L. S. (1996). The water-level task: An intriguing puzzle. *Current Directions in Psychological Science*, 5, 171-177.

- Liben, L. S. (1995). Educational applications of geographic information systems: A developmental psychologist's perspective. In D. Barstow (Ed.) *First national conference on the educational applications of geographic information systems* (pp. 44-49). Cambridge, MA: TERC.
- Sholl, M. J., & Liben, L. S. (1995). Illusory tilt and Euclidean schemes as factors in performance on the water-level task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *21*, 1624-1638.
- Liben, L. S., & Downs, R. M. (1994). Fostering geographic literacy from early childhood: The contributions of interdisciplinary research. *Journal of Applied Developmental Psychology*, *15*, 549-569.
- Liben, L. S. (1994). Capturing the artistic core: Review of C. Golomb, *The child's creation of a pictorial world*. *Journal of Aesthetic Education*, *28*, 63-68.
- Downs, R. M., & Liben, L. S. (1993). Mediating the environment: Communicating, appropriating, and developing graphic representations of place. In R. H. Wozniak & K. Fischer (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 155-181). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Liben, L. S., & Downs, R. M. (1993). Understanding person-space-map relations: Cartographic and developmental perspectives. *Developmental Psychology*, *29*, 739-752.
- Liben, L. S., & Signorella, M. L. (1993). Gender-schematic processing in children: The role of initial interpretations of stimuli. *Developmental Psychology*, *29*, 141-149.
- Signorella, M. L., Bigler, R. S., & Liben, L. S. (1993). Developmental differences in children's gender schemata about others: A meta-analytic review. *Developmental Review*, *13*, 147-183.
- Bigler, R. S., & Liben, L. S. (1993). A cognitive-developmental approach to racial stereotyping and reconstructive memory in Euro-American children. *Child Development*, *64*, 1507-1518.
- Liben, L. S., & Downs, R. M. (1992). Developing an understanding of graphic representations in children and adults: The case of GEO-graphics. *Cognitive Development*, *7*, 331-349.
- Bigler, R. S., & Liben, L. S. (1992). Cognitive mechanisms in children's gender stereotyping: Theoretical and educational implications of a cognitive-based intervention. *Child Development*, *63*, 1351-1363.
- Liben, L. S. (1991). Adults' performance on horizontality tasks: Conflicting frames of reference. *Developmental Psychology*, *27*, 285-294.
- Downs, R. M., & Liben, L. S. (1991). The development of expertise in geography: A cognitive-developmental approach to geographic education. *Annals of the Association of American Geographers*, *81*, 304-327.
- Liben, L. S., & Downs, R. M. (1991). The role of graphic representations in understanding the world. In R. M. Downs, L. S. Liben, & D. S. Palermo (Eds.), *Visions of aesthetics, the environment, and development: The legacy of Joachim Wohlwill* (pp. 139-180). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Liben, L. S. (1991). Environmental cognition through direct and representational experiences: A life-span perspective. In T. Garling & G. W. Evans (Eds.), *Environment, cognition, and action* (pp. 245-276). New York: Oxford University Press.
- Liben, L. S. (1991). The Piagetian water-level task: Looking beneath the surface. In R. Vasta (Ed.), *Annals of Child Development* (Vol. 8, pp. 81-143). London: Jessica Kingsley Publishers.
- Downs, R. M., Liben, L. S., & Daggs, D. G. (1990). Surveying the landscape of developmental geography: A dialogue with Howard Gardner [reply to Commentary by Gardner]. *Annals of the Association of American Geographers*, *80*, 124-128.
- Bigler, R. S., & Liben, L. S. (1990). The role of attitudes and intervention in gender-schematic processing. *Child Development*, *61*, 1440-1452.
- Downs, R. M., & Liben, L. S. (1990). Getting a bearing on maps: The role of projective spatial concepts. *Children's Environments Quarterly*, *7*, 15-25.
- Liben, L. S., & Downs, R. M. (1989). Educating with maps: Part I, The place of maps. *Teaching Thinking and Problem Solving*, *11*(1), 6-9.
- Liben, L. S., & Downs, R. M. (1989). Educating with maps: Part II, The place of children. *Teaching Thinking and Problem Solving*, *11*(2), 1-4.
- Liben, L. S., & Downs, R. M. (1989). Understanding maps as symbols: The development of map concepts in children. In H. W. Reese (Ed.), *Advances in child development and behavior* (Vol. 22, pp. 145-201). New York: Academic Press.

- Liben, L. S. (1988). Conceptual issues in the development of spatial cognition. In J. Stiles-Davis, M. Kritchevsky, & U. Bellugi (Eds.), *Spatial cognition: Brain bases and development* (pp. 167-194). Hillsdale, NJ: Erlbaum Associates.
- Downs, R. M., & Liben, L. S. (1988). Through a map darkly: Understanding maps as representations. *Genetic Epistemologist*, 16, 11-18.
- Downs, R. M., Liben, L. S., & Daggs, D. G. (1988). On education and geographers: The role of cognitive developmental theory in geographic education. *Annals of the Association of American Geographers*, 78, 680-700.
- Liben, L. S. (1987). Information processing and Piagetian theory: Conflict or congruence? In L. S. Liben (Ed.), *Development and learning: Conflict or congruence?* (pp. 109-132). Hillsdale, NJ: Erlbaum Associates.
- Liben, L. S. (1987). Approaches to development and learning: Conflict and congruence. In L.S. Liben (Ed.), *Development and learning: Conflict or congruence?* (pp. 237-252). Hillsdale, NJ: Erlbaum Associates.
- Downs, R. M., & Liben, L. S. (1987). Children's understanding of maps. In P. Ellen & C. Thinus-Blanc (Eds.), *Cognitive processes and spatial orientation in animal and man: Vol. I. Neurophysiology of spatial knowledge and developmental aspects* (pp. 202-219). Dordrecht, Holland: Martinus Nijhoff.
- Liben, L. S., & Bigler, R. S. (1987). Reformulating children's gender schemata. In L. S. Liben & M. L. Signorella (Eds.), *Children's gender schemata* (pp. 89-105). San Francisco: Jossey-Bass.
- Golbeck, S. L., & Liben, L. S. (1988). Children's representation of the environment. *Children's Environment Quarterly*, 5, 46-53.
- Liben, L. S. (1986). Review of D. Olson & E. Bialystok, *Spatial cognition: The structure and development of mental representations of spatial relations*. *Canadian Psychology/Psychologie Canadienne*, 27, 299-301.
- Liben, L. S., & Golbeck, S. L. (1986). Adults' demonstration of underlying Euclidean concepts in relation to task context. *Developmental Psychology*, 22, 487-490.
- Liben, L. S. (1985). The development and use of memory strategies by deaf children and adults. In D. S. Martin (Ed.), *Cognition, education, and deafness: Directions for research and instruction*. Washington, DC: Gallaudet Press.
- Signorella, M. L., & Liben, L. S. (1985). Assessing children's gender-related attitudes. *Psychological Documents*, 15, 7.
- Signorella, M. L., & Liben, L. S. (1984). Recall and reconstruction of gender-related pictures: Effects of attitude, task difficulty, and age. *Child Development*, 55, 393-405.
- Liben, L. S., & Golbeck, S. L. (1984). Performance on Piagetian horizontality and verticality tasks: Sex-related differences in knowledge of relevant physical phenomena. *Developmental Psychology*, 20, 595-606.
- Liben, L. S. (1982). The developmental study of children's memory. In T. Field, A. Huston, H. Quay, L. Troll, & G. Finley (Eds.), *Review of Human Development* (pp. 269-289). New York: Wiley.
- Newcombe, N., & Liben, L. S. (1982). Barrier effects in the cognitive maps of children and adults. *Journal of Experimental Child Psychology*, 34, 46-58.
- Liben, L. S., Moore, M. L., & Golbeck, S. L. (1982). Preschoolers' knowledge of their classroom environment: Evidence from small-scale and life-size spatial tasks. *Child Development*, 53, 1275-1284.
- Liben, L. S. (1982). Children's large-scale spatial cognition: Is the measure the message? In R. Cohen (Ed.), *New directions in child development: Children's conceptions of their spatial environments* (pp. 51-64). San Francisco: Jossey-Bass.
- Liben, L. S. (1981). Spatial representation and behavior: Multiple perspectives. In L. S. Liben, A. H. Patterson, & N. Newcombe (Eds.), *Spatial representation and behavior across the life span: Theory and application* (pp. 3-36). New York: Academic Press.
- Liben, L. S. (1981). Contributions of individuals to their development during childhood: A Piagetian perspective. In R. Lerner & N. Busch-Rossnagel (Eds.), *Individuals as producers of their development: A life-span perspective* (pp. 117-153). New York: Academic Press.
- Liben, L. S. (1981). Copying and remembering pictures in relation to subjects' operative levels. *Developmental Psychology*, 17, 357-365.
- Liben, L. S. (1981). Review of G. J. Whitehurst & B. J. Zimmerman (Eds.), *The functions of language and cognition*. *Child Development Abstracts and Bibliography*, 55, 328.

- Liben, L. S., & Belknap, B. (1981). Intellectual realism: Implications for investigations of perspective-taking in young children. *Child Development, 52*, 921-924.
- Liben, L. S. (1980). Class inclusion performance: Its relation to training and question comprehension. In L. Nadelman (Ed.), *Infant and child behavior: A laboratory approach*. New York: Harper and Row.
- Liben, L. S. (1980). Representing, using and designing space: Review of an interdisciplinary life span conference. *Essay Review, Human Development, 23*, 210-216.
- Liben, L. S., & Golbeck, S. L. (1980). Sex differences in performance on Piagetian spatial tasks: Differences in competence or performance? *Child Development, 51*, 594-597.
- Liben, L. S., & Signorella, M. L. (1980). Gender-related schemata and constructive memory in children. *Child Development, 51*, 11-18.
- Liben, L. S. (1979). Free recall by deaf and hearing children: Semantic clustering and recall in trained and untrained groups. *Journal of Experimental Child Psychology, 27*, 105-119.
- Trepanier, M. L., & Liben, L. S. (1979). The operative basis of performance on Piagetian memory tasks: Evidence from normal and learning disabled children. *Developmental Psychology, 15*, 668-669.
- Liben, L. S. (1978). Review of M. H. Appel & L. S. Goldberg (Eds.), Topics in cognitive development. Equilibration: Theory, research and application. *Child Development Abstracts and Bibliography, 52*, 246.
- Liben, L. S. (1978). Perspective-taking skills in young children. Seeing the world through rose-colored glasses. *Developmental Psychology, 14*, 87-92.
- Liben, L. S. (1978). Performance on Piagetian spatial tasks as a function of sex, field dependence, and training. *Merrill-Palmer Quarterly, 24*, 97-110.
- Liben, L. S. (1978). The development of deaf children: An overview of issues. In L. S. Liben (Ed.), *Deaf children: Developmental perspectives* (pp. 3-20). New York: Academic Press.
- Liben, L. S. (1978). Developmental perspectives on the experiential deficiencies of deaf children. In L. S. Liben (Ed.), *Deaf children: Developmental perspectives* (pp. 195-215). New York: Academic Press.
- Liben, L. S., Nowell, R. C., & Posnansky, C. J. (1978). Semantic and formational clustering in deaf and hearing subjects' free recall of signs. *Memory & Cognition, 6*, 599-606.
- Liben, L. S. (1977). Memory from a cognitive-developmental perspective: A theoretical and empirical review. In W. Overton & J. Gallagher (Eds.), *Knowledge and development, Volume 1: Advances in research and theory* (pp. 149-203). New York: Plenum.
- Liben, L. S. (1977). Memory in the context of cognitive development: The Piagetian approach. In R. V. Kail Jr., & J. W. Hagen (Eds.), *Perspectives on the development of memory and cognition* (pp. 297-331). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Liben, L. S. (1977). The facilitation of long-term memory improvement and operative development. *Developmental Psychology, 13*, 501-508.
- Liben, L. S., & Posnansky, C. J. (1977). Inferences on inference: The effects of age, transitive ability, memory load, and lexical factors. *Child Development, 48*, 1490-1497.
- Liben, L. S. (1977). Long-term memory improvement: Reflexive and reflective skepticism. *The Genetic Epistemologist, 6*, 2-5.
- Liben, L. S. (1976). Review of M. F. Roskopf (Ed.), Children's mathematical concepts: Six Piagetian studies in mathematics education. *Child Development Abstracts and Bibliography, 50*, 310-311.
- Liben, L. S. (1975). Evidence for developmental differences in spontaneous seriation and its implications for past research in long-term memory improvement. *Developmental Psychology, 11*, 121-125.
- Liben, L. S. (1975). Long-term memory for pictures related to seriation, horizontality, and verticality concepts. *Developmental Psychology, 11*, 795-806.
- Liben, L. S. (1975). Development and memory improvement. *Contemporary Psychology, 20*, 1-3.
- Liben, L. S. (1974). Operative understanding of horizontality and its relation to long-term memory. *Child Development, 45*, 416-424.
- Iannucci, D., Liben, L. S., & Anisfeld, M. (1968). Some determinants of stylistic phonological variations. *Journal of Verbal Learning and Verbal Behavior, 7*, 956-961.

PUBLICATIONS: Books, Monographs, and Reports

- Liben, L. S., Bigler, R. S., & Blakemore, J.E.O. (in preparation) *Gender development. Second edition.* New York: Taylor & Francis.
- Müller, U., & Liben, L. S. (Eds.) (2017). Natural spaces and development. *Children, Youth and Environments*, 27(2).
- Horn, S., Ruck, M., & Liben, L. S. (Eds.) (2016). *Equity and justice in developmental science: Theoretical and methodological issues.* Volume 50 of *Advances in child development and behavior.* Series Editor: J. B. Benson. San Diego: Elsevier.
- Horn, S., Ruck, M., & Liben, L. S. (Eds.) (2016). *Equity and justice in developmental science: Challenges and implications for young people, families, and communities.* Volume 51 of *Advances in child development and behavior.* Series Editor: J. B. Benson. San Diego: Elsevier.
- Liben, L. S. & Müller, U. (Eds.) (2015). *Cognitive processes.* Volume 2 of the *Handbook of child psychology and developmental science* (7th ed.). Editor-in-chief: R. M. Lerner. Hoboken, NJ: Wiley.
- National Research Council Committee on Successful Out-of-School STEM Learning (Member of authorship committee) (2015). *Successful out-of-school STEM learning: Identifying and supporting successful settings and programs.* Washington, D.C.: National Academy Press.
- Liben, L. S., & Bigler, R. S. (Eds.) (2014). *The role of gender in educational contexts and outcomes.* Volume 47 of *Advances in child development and behavior.* Series Editor: J. B. Benson. San Diego: Elsevier.
- Blakemore, J. E. O., Berenbaum, S. A., & Liben, L. S. (2009). *Gender development.* New York: Taylor & Francis.
- Liben, L. S. (Ed.) (2009). *Current directions in developmental psychology.* Boston: Pearson.
- National Research Council Committee on the Support for Thinking Spatially (Member of authorship committee) (2006). *Learning to think spatially: GIS as a support system in the K-12 curriculum.* Washington, D.C.: National Academy Press.
- Liben, L. S., & Bigler, R. S. (2002). The developmental course of gender differentiation: Conceptualizing, measuring, and evaluating constructs and pathways. *Monographs of the Society for Research in Child Development, Serial No. 269, Vol 6.*
- Downs, R. M., Liben, L. S., & Palermo, D. S. (Eds.). (1991). *Visions of aesthetics, the environment, and development: The legacy of Joachim Wohlwill.* Hillsdale, NJ: Lawrence Erlbaum Associates.
- Liben, L. S. (Ed.). (1987). *Development and learning: Conflict or congruence?* Hillsdale, NJ: Erlbaum Associates.
- Liben, L. S., & Signorella, M. L. (Eds.). (1987). *Children's gender schemata.* San Francisco: Jossey-Bass.
- Liben, L. S., & Downs, R. M. (1986). *Children's production and comprehension of maps: Increasing graphic literacy.* Final Report to National Institute of Education (#G-83-0025).
- Liben, L. S. (Ed.). (1983). *Piaget and the foundations of knowledge.* Hillsdale, NJ: Erlbaum Associates.
- Liben, L. S., Patterson, A. H., & Newcombe, N. (Eds.). (1981). *Spatial representation and behavior across the life span: Theory and application.* New York: Academic Press.
- Liben, L. S. (Ed.). (1978). *Deaf children: Developmental perspectives.* New York: Academic Press.

SELECTED INVITED ADDRESSES: 2010-2020

- Liben, L. S. (2020, February) We've Come a Long Way, Baby! Gender Past, Present, and Future. Lansdowne Public Lecture Series, University of Victoria, Canada.
- Liben, L. S. (2020, February) Understanding Spatial Representations: A Cognitive-Developmental Perspective. Cognition and Brain Sciences Series, University of Victoria, Canada.
- Liben, L. S. (2019, July) Developing an understanding of visualizations: Children's strengths and struggles. Keynote address at the Gordon Research Conference: Educating Skillful Visualizers, Lewiston, ME
- Liben, L. S. (2019, February). Understanding & facilitating spatial thinking: A cognitive-developmental approach. STEM Education Research Centre, The University of Canberra, Canberra Australia.

- Liben, L. S. & Bigler, R. S. (2019, February). Understanding and undermining the development of gender dichotomies: The legacy of Sandra Lipsitz Bem. Invited presentation in the Distinguished Publication Award Symposium, Association for Women in Psychology. Newport Beach, RI.
- Liben, L. S. (2018, December) The STEM Gender Gap: In and Beyond the National Geographic Bee. Invited presentation at the National Geographic Society (Education Program), Washington, D.C.
- Liben, L. S. (2018, March) Where are the women? Causes and solutions for women's underrepresentation in science and engineering. Part I: Origins and implications. Invited address to the Institute for Advanced Studies, University of Bologna, Bologna, Italy
- Liben, L. S. (2017, October). Beyond gender determinism. Keynote Address, *Children and Authenticity: Exploring the Heart of Education*, Children's Art Guild, Inc., New York, NY.
- Liben, L. S. (2016, October). "We've come a long way, baby!" Asking what gender was, is, and might be. Keynote Address, Gender Development Research Conference, San Francisco, CA.
- Liben, L. S. (2016, June). Developing an understanding of real and represented spaces. Plenary Address, annual meeting of the Jean Piaget Society, Chicago, IL.
- Liben, L. S. (2014, July). Gender, spatial thinking, & STEM in formal & informal educational contexts. Keynote Address, Gender and STEM Conference, Berlin.
- Liben, L. S. (2015, March). *We've come a long way baby! (But we're not there yet.)* Presidential Address, Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.
- Liben, L. S. (2013, November). Individual ↔ context relations in developmental intergroup theory: Explaining and optimizing social-group relationships. Keynote Address, Biennial Meeting of the Society for the Study of Human Development, Fort Lauderdale, FL.
- Liben, L. S. (2013, June). Children's gendered beliefs and actions: Yes, words *do* matter! Keynote Address, European Training Network Conference on Language, Cognition and Gender, University of Bern, Bern Switzerland.
- Liben, L. S., (2012, March) Spatial cognition as a foundation for representational competence. Keynote Address, Eastern Psychological Association, Pittsburgh, PA.
- Liben, L. S. (2010, September). Cognitive development as a foundation for understanding geospatial representations. Keynote Address, GIScience. Zurich, Switzerland.

CONFERENCE AND COLLOQUIUM PRESENTATIONS: 2010-2020

- Schroeder, K. M., & Liben, L. S. (December, 2020; postponed). Parents' attitudes toward women, homophobia, and religiosity in relation to children's gender typicality and felt pressure. Paper accepted for presentation at the 2020 Society for Research on Child Development Special Topics Meeting: Construction of the Other, Rio Grande, Puerto Rico.
- Liben, L. S. (2019, October). Research application and transfer. Invited panel presentation in the Digital Media & Cognitive Development preconference at the biennial meetings of the Cognitive Development Society, Louisville, KY.
- Hilliard, L. J. & Liben, L. S. (2019, October). Parental socialization about sexism: Do socialization beliefs match behavior? Symposium presentation at the biennial meeting of the Society for the Study of Human Development, Portland, OR.
- Schroeder, K. M., & Liben, L. S. (2019, October). Felt pressure to conform to gender roles in the context of general social conformity. Poster presentation at the biennial meeting of the Society for the Study of Human Development, Portland, OR.
- Liben, L. S. (2019, March). Children's strategies for linking real-world maps to real-world environments. Symposium presentation at the biennial meetings of the Society for Research in Child Development, Baltimore, MD.
- Liben, L. S. (2019, March). The pros and cons of studying and intervening in social-group intellectual stereotypes. Symposium presentation at the biennial meetings of the Society for Research in Child Development, Baltimore, MD.
- Schroeder, K. M. & Liben, L. S. (2019, March) The impacts of felt pressure, age, and gender on responses to sexism. Poster presented at the biennial meetings of the Society for Research in Child Development, Baltimore, MD.
- Hilliard, L. J. & Liben, L. S. (2018, October). Testing a #MeToo effect on adults' socialization beliefs. Poster presented at the Gender Development Research Conference, San Francisco, CA.

- Liben, L. S. & Signorella, M. L. (2018, October). Ameliorating the STEM gender gap through a spatial intervention? Not so fast! Poster presented at the Gender Development Research Conference, San Francisco, CA.
- Signorella, M. L. & Liben, L. S. (2018, October). What can students' job perceptions tell us about gender and STEM? Poster presented at the Gender Development Research Conference, San Francisco, CA.
- Schroeder, K. M. & Liben, L. S. (2018, October). Adults' and children's approaches to explaining gender concepts. Poster presented at the Gender Development Research Conference, San Francisco, CA.
- Coyle, E. F. & Liben, L. S. (2018, August). Closing the gender gap in STEM: A meta-analysis of what works (and what does not). Symposium presentation at the meetings of the Gender & STEM Network, Eugene, OR.
- Liben, L. S. (2018, August). STEM motivation & participation: some reflections. Symposium presentation at the meetings of the Gender & STEM Network, Eugene, OR.
- Signorella, M. L. & Liben, L. S. (2018, August). What can students' job perceptions tell us about gender and STEM? Poster presented at the meetings of the American Psychological Association, San Francisco, CA.
- Suh, D. D., Ribner, A. D., Liben, L. S., & Tamis-Lemonda, C. S. (2018, July). Infants' fine-motor skills predict children's spatial skill performance at age 5. Poster presented at the International Conference for Infant Studies, Philadelphia, PA.
- Liben, L. S., & Bower, C. A. (2018, May). Strategies in linking surrounding places to spatial representations. Symposium presentation at the annual meetings of the Jean Piaget Society, Amsterdam.
- Liben, L. S., Hilliard, L. J., & Bigler, R. S. (2017, October). Social-group divisions in classrooms: Effects on individual children and the broader ecology. Symposium presentation at the biennial meeting of the Society for the Study of Human Development. Providence, RI.
- Hilliard, L. J. & Liben, L. S. (2017, October). Adults' beliefs about how to socialize children about social-group biases. Symposium presentation at the biennial meeting of the Society for the Study of Human Development. Providence, RI.
- Schroeder, K. M., & Liben, L. S. (2017, October). A mixed-methods approach to understanding developmental trends in metacognitions of gender. Poster presentation at the biennial meeting of the Society for the Study of Human Development. Providence, RI.
- Schaefer, C. A., Liben, L. S., Schroeder, K. M., Pasterski, V., Glover, V., Hindmarsh, P., Neufeld, S., O'Connor, T., Spencer, D., & Hines, M. (2017, April). Does prenatal testosterone predict children's changing interests in gender differentiated activities? Poster presented at the biennial meeting of the Society for Research in Child Development. Austin, TX.
- Schroeder, K. M., & Liben, L. S. (2017, April). Does understanding of gender link to felt pressure to conform to gender roles? Poster presented at the biennial meeting of the Society for Research in Child Development. Austin, TX.
- Borriello, G. A., & Liben, L. S. (2017, April). Guiding knowledge by guiding hands: Can we increase maternal gesture during spatial play with preschoolers? Symposium presentation at the biennial meeting of the Society for Research in Child Development. Austin, TX.
- Liben, L. S., Signorella, M. S., & Bower, C. A. (2017, April). Effects of a spatial-skills curriculum on STEM outcomes in middle-school students. Symposium presentation at the biennial meeting of the Society for Research in Child Development. Austin, TX.
- Bower, C. A., & Liben, L. S. (2017, April). A spatial perspective-taking intervention facilitates children's understanding of astronomy. Symposium presentation at the biennial meeting of the Society for Research in Child Development. Austin, TX.
- Liben, L. S. (2016, November). You've come a long way, baby! *A developmental psychologist's view of gender*. Invited colloquium, Population Research Center, University of Texas, Austin, TX.
- Schroeder, K. M., & Liben, L. S. (2016, October). What does gender really mean? Developmental trends in metacognitions of gender. Poster presented at the Gender Development Research Conference, San Francisco, CA.
- Borriello, G. A., Liben, L. S., & Buss, K. A. (2016, June). Does parent or child gender impact dyads' spatial behavior during play? Symposium presentation at the annual meeting of the Jean Piaget Society, Chicago, IL.

- Bower, C. A., Liben, L. S., & Christensen, A. E. (2016, June). Children's map use in environmental space: Does suggesting map alignment help? Paper presented at the annual meeting of the Jean Piaget Society, Chicago, IL.
- Bower, C. A., Liben, L. S., & Plummer, J. D. (2016, June). The role of spatial skills and gesture in understanding and communicating scientific concepts: A focus on astronomy & geology. Symposium presentation at the annual meeting of the Jean Piaget Society, Chicago, IL.
- Liben, L. S. (2016, May). Gender past, present, & future: A developmental psychologist's perspective. Invited colloquium, Carleton College. Northfield, MN.
- Liben, L. S. (2016, April). Single-sex schooling: The good, the bad, & the who knows? What gender science brings to the debate. Invited campus-community lecture, Beloit College. Beloit, WI.
- Liben, L. S. (2016, April). Children's developing understanding of images: The role of parents, schools, & museums. Invited colloquium, Museum Program, Beloit College. Beloit, WI.
- Signorella, M. S., Liben, L. S. (2016, March). Self-conceptions and spatial performance by women and men in STEM- or non-STEM-intensive majors. Paper presented at the meeting of the Association for Women in Psychology, Pittsburgh, PA.
- Signorella, M. S., Liben, L. S., Sorby, S. A., & Veurink, N. L. (2016, March). Early adolescent self-conceptions and beliefs in gender-related domains: A longitudinal comparison. Paper presented at the biennial meeting of the Society for Research in Adolescence. Baltimore, MD.
- Coyle, E. F. & Liben, L. S. (2016, March). What works to close the gender gap in STEM? A meta-analysis of interventions. Poster presented at the biennial meeting of the Society for Research in Adolescence. Baltimore, MD.
- Bower, C. A., Liben, L. S., Christensen, A. E., & Kastens, K. A. (2015, October). Multiple modes of representation in communicating scientific concepts in developing learners: The role of spatial skills and gesture. Poster presented at the meeting of the Cognitive Development Society, Columbus, OH.
- Borriello, G. A., Liben, L. S., & Buss, K. A. (2015, October). Does spatial talk during parent-child play vary by parent or child gender? Poster presented at the meeting of the Cognitive Development Society, Columbus, OH.
- Coyle, E. F. & Liben, L. S. (2015, March). Preschoolers' mechanical learning from a STEM toy: The roles of parental guidance and gender-targeted marketing. Poster presented at the biennial meeting of Society for Research in Child Development, Philadelphia, PA.
- Coyle, E. F. & Liben, L. S. (2015, March). Toys marketed to girls: A path to STEM engagement? In E. Weisgram (Chair), Gender-typing of toys: Causes, correlates, and consequences. Symposium presentation at the biennial meeting of the Society for Research in Child Development, Philadelphia, PA.
- Bower, C. A., Plummer, J. D., & Liben, L. S. (2015, March). The role of spatial perspective-taking skills in children's gesture use and explanations of astronomical phenomena. Poster presented at the biennial meeting of the Society for Research in Child Development. Philadelphia, PA.
- Borriello, G. A., & Liben, L. S. (2015, March). Parental guidance of children's spatial thinking: effects of an intervention. Poster presented at the biennial meeting of the Society for Research in Child Development. Philadelphia, PA.
- Coyle, E. F. & Liben, L. S. (2014, October). The influence of gender-based marketing on parent-child play with a mechanical toy. Poster presented at the Gender Development Research Conference, San Francisco, CA.
- Liben, L. S. (2014, October). Academic and school success: Research on gendered interventions. Symposium presentation at the Gender Development Research Conference, San Francisco, CA.
- Coyle, E. F. & Liben, L. S. (2014, July). The earliest STEM learning: The influences of parents and gender-based marketing on preschoolers' play with a construction toy. Poster presented at the Gender and STEM Conference, Berlin.
- Liben, L. S. (2014, June). Gender, spatial thinking, & STEM in formal & informal educational contexts. Invited presentation at the National Summit on Successful OST STEM Learning. National Academy of Sciences, Washington D.C.
- Bower, C. A., Plummer, J. D., & Liben, L. S. (2014, May). The role of perspective-taking skills and gesture in connecting astronomical frames of reference. Paper presented at the 1st PA Spatial Cognition Symposium. Pennsylvania State University, PA.

- Borriello, G. A., & Liben, L. S. (2014, May). Mothers' responsiveness to instructions to facilitate preschoolers' spatial thinking during play. Symposium presentation at the 1st PA Spatial Cognition Symposium. University Park, PA.
- Bower, C. A., Plummer, J. D., & Liben, L. S. (2014, March). The role of perspective taking skills in children's explanations of astronomical phenomena. Paper presented at the National Association for Research in Science Teaching Annual International Conference, Pittsburgh, PA.
- Sorby, S. A., Signorella, M. L., Veurink, N. L., & Liben, L. S. (2013, October). Developing spatial skills among middle school students. Paper presented at Engineering Design Graphics Division of the American Society for Engineering Education: 68th Annual Midyear Conference, Worcester, MA. (*68th Midyear EDGD Conference Proceedings* pp. 23-27).
- Liben, L. S., (2013, June). Contemporary perspectives on gender development: A constructivist view of children's gendered beliefs and actions. Invited symposium presentation at the annual meeting of the Jean Piaget Society, Chicago.
- Liben, L. S., (2013, May). Replications in developmental science: Critical challenges for building cumulative psychological science of child development. Invited panel presentation at the annual meeting of the Association of Psychological Science, Washington, D. C.
- Bigler, R. S., Hayes, A. R., & Liben, L. S. (2013, April). When, why, and how the gender composition of classrooms affects students. Invited symposium presentation at the biennial meeting of the Society for Research in Child Development, Seattle.
- Bower, C. A., Plummer, J. D., Liben, L. S., & Small, K. (2013, April). The role of perspective-taking skills in children's learning of astronomical phenomena. Poster presented at the biennial meeting of the Society for Research in Child Development. Seattle, WA.
- Liben, L. S., Signorella, M. L., & Sorby, S. A. (2013, April). The impact of a spatial skills curriculum in middle school: Cognitive and social-cognitive outcomes in spatial and STEM domains. Symposium presentation at the biennial meeting of the Society for Research in Child Development, Seattle.
- Liben, L. S. (2013, April). The development of social stereotypes and prejudice: Making intractable questions tractable through the novel-groups paradigm. Symposium presentation at the biennial meeting of the Society for Research in Child Development, Seattle.
- Borriello, G. & Liben, L. S. (2013, April). Parental supports for the development of preschoolers' spatial skills through play. Poster presented at the biennial meeting of the Society for Research in Child Development, Seattle.
- Coyle, E. F. & Liben, L. S. (2013, April). Attracting girls to STEM: Personal gender salience moderates the outcome of an occupational game. Poster presented at the biennial meeting of the Society for Research in Child Development, Seattle.
- Liben, L. S. (2013, February). Spatial concepts as foundations for educational, occupational, and daily tasks. Invited colloquium, Department of Psychology, University of Pennsylvania, Philadelphia.
- Liben, L. S. (2012, December). The role of spatial skills in mapping skills. Invited colloquium, Department of Geography, University of Zurich, Zurich Switzerland.
- Liben, L. S. (2012, December). Spatial education across the college curriculum: A psychologist's perspective. Invited plenary speaker, Specialist meeting on spatial thinking across the college curriculum, Santa Barbara.
- Liben, L. S. & Downs, R. M. (2012, September). Understanding Competitions: Where are the GeoBee girls? Invited presentation at meeting of academic competitions directors' meeting, National Geographic Society, Washington, DC.
- Liben, L. S. (2012, June). From the lab to the real world: What is lost and what is found? Invited speaker, *Realism to Relevance: An Ecological Approach to Perception, Action, and Cognition*, Festschrift to Honor Herbert L. Pick, Jr. Minneapolis.
- Bigler, R. S. & Liben, L. S. (2012, April). Reducing sexism in schools: Is single-sex schooling a solution? Symposium presentation at the meeting of the American Educational Research Association, Vancouver.
- Liben, L. S. & Bigler, R. S. (2012, April). If, when, why, and how to address gender in the classroom. Presentation in the Vice-Presidential Symposium at the meeting of the American Educational Research Association, Vancouver.
- Liben, L. S. (2012, April). Making STEM girly or making girls STEM? In *Gender, Motivation, and Performance Symposium* (H. Watt, Chair) at the Gender Development Research Conference, San Francisco.

- Coyle, E. F., & Liben, L. S. (2012, April). Piquing preschool girls' occupational interests: What matters? Poster presentation at the Gender Development Research Conference, San Francisco.
- Hilliard, L. J., & Liben, L. S. (2012, April). No boys in ballet! Response to gender bias in mother-child conversations. Poster presented at the Gender Development Research Conference, San Francisco.
- Liben, L. S., Bower, C. A., Christensen, A. E., & Myers, L. J. (2012, February). Children's success in mapping locations in relation to spatial skills, strategies, and gender. Paper presented at the Annual Meeting of the Association of American Geographers, New York.
- Li, R., Klippel, A., Liben, L. S., & Christensen, A. E. (2012, February). Indoor spatial awareness: Impacts of environmental quality, individual differences, and mobility. Paper presented at the Annual Meeting of the Association of American Geographers, New York.
- Liben, L. S. (2012, February). Parental input into children's spatial skills. Invited colloquium, Center for Research on Culture, Development, and Education. New York University, New York.
- Liben, L.S., (2011, November). Understanding geospatial representations: A cognitive developmental approach. Invited presentation in Human Factors in GIScience: Transdisciplinary mini-lecture series. Department of Geography, The Pennsylvania State University, University Park, PA.
- Hilliard, L. J., & Liben, L. S. (2011, August). Beliefs and practice: Addressing bias with children. Presentation in symposium *Parenting in and about diverse contexts*. American Psychological Association, Washington, D.C.
- Liben, L. S., (2011, June). Parental supports in informal learning environments: Developing children's scientific concepts and skills. Symposium presentation at the annual meeting of the Jean Piaget Society, Berkeley, CA.
- Liben, L. S. (2011, June). The landscape of spatial thinking. Invited presentation at Geographic Thinking Workshop, The Roadmap to Geographic Education, National Geographic Society, Washington, D.C.
- Liben, L. S. (2011, May). From universality to individuality in gender development: Evolving perspectives, methods, and applications. Invited presentation, Festschrift to honor Aletha C. Huston, Austin TX.
- Christensen, A. E., & Liben, L. S. (2011, April). Not all map use is created equal: Effects of task demands on children's environmental learning. Poster presented presentation at the biennial meeting of the Society for Research in Child Development. Montreal, Canada.
- Liben, L. S. & Myers, L. J. (2011, April). Stickers mark the spot! Success in mapping campus locations in relation to children's spatial skills, strategy use, and sex. Poster presented presentation at the biennial meeting of the Society for Research in Child Development. Montreal, Canada.
- Liben, L. S. (2011, April). The challenge of linking environmental photographs and maps. Paper presented at the Annual Meeting of the Association of American Geographers. Seattle, WA.
- Liben, L. S. (2011, March). The great beyond: Expanding children's and researchers' notions of symbolic development. Symposium presentation at the biennial meeting of the Society for Research in Child Development. Montreal, Canada.
- Liben, L. S. (2010, October). The National Geographic Bee: Where are the girls? Symposium presentation at the National Council for Geographic Education, Savannah, Georgia.
- Christensen, A. E. & Liben, L. S. (2010, September). The role of map alignment in performance on mapping tasks. In D. N. Rapp (Ed.), *Spatial Cognition 2010: Poster presentations*. SFB/TR 8 Report No. 024-07/2010, 18, Universities of Bremen and Freiburg, Germany.
- Münzer, S., Christensen, A. E. & Liben, L. S. (2010, September). Finding your way around the environment: Differences and similarities across countries in self-reports. In D. N. Rapp (Ed.), *Spatial Cognition 2010: Poster presentations*. SFB/TR 8 Report No. 024-07/2010, 66. Universities of Bremen and Freiburg, Germany.
- Bigler, R. S. & Liben, L. S. (2010, July). Socialization of children's knowledge and views of intergroup bias. Paper presented at the Small Group Meeting: Lisbon University Institute; Developmental Perspectives on Intergroup Prejudice: Advances in Theory, Measurement, and Intervention. Lisbon, Portugal.
- Liben, L. S. (2010, May). Developing spatial skills: The 3Rs of individual and environmental differences. Invited presentation at the Spatial Learning Conference: Sources of Individual Differences in Spatial Skills. Cambridge, MA.

- Liben, L. S., & Hilliard, L. J. (2010, April). Preschoolers' gender vigilance: Effects of classroom organization. Poster presentation at the Gender Development Research Conference, San Francisco, CA.
- Liben, L. S., Pasterski, V.L., Glover, V., Hilliard, L. J., Hindmarsh, P. C., Neufeld, S. A., O'Connor, T. G., Spencer, D., & Hines, M. (2010, April). Prenatal testosterone exposure and children's later self-endorsements of gender-differentiated activities and traits. Poster presentation at the Gender Development Research Conference, San Francisco, CA.
- Hilliard, L. J., & Liben, L. S. (2010, April). Addressing discrimination with children: Young adults' past experiences and current beliefs. Poster presentation at the Gender Development Research Conference, San Francisco, CA.
- Liben, L. S. (2010, April). Spatial sex differences in infancy: What are they and what do they mean? In M. Hines (Chair), Sex differences in infants. Symposium presentation at the Gender Development Research Conference, San Francisco, CA.
- Liben, L. S. (2010, April). Single sex schools: Out of the pan and into the fire. In. M. L. Signorella (Chair), Single sex schools: Debates, data, and decision-making. Symposium presentation at the Gender Development Research Conference, San Francisco, CA.
- Hilliard, L. J., & Liben, L. S. (2010, April). Teaching children about racism and sexism: When? How? Ever? Poster presentation at the Center for Research in Diverse Contexts 10th Anniversary Celebration, Penn State, University Park, PA.
- Liben, L. S., Christensen, A. E., Kastens, K. A., (2010, March). Spatial concepts, expertise, and context effects on the use of gesture in geoscience. Poster presentation at REESE Principal Investigators Meeting, Arlington, VA.
- Liben, L. S. (2010, March). Why sex matters: Biological, cognitive, and social processes in gender development. Psychology Department Colloquium Villanova University, Villanova, PA.
- Liben, L. S. (2010, February). Developmental pathways to map understanding. Invited colloquium, Psychology Department, Tulane University, New Orleans, LA.