

# Lynn S. Liben

McCourtney Professor of Child Studies  
Professor of Psychology; Human Development & Family Studies; and Education  
The Pennsylvania State University

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## EDUCATION

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

## PENN STATE POSITIONS

- 2016- McCourtney Professor of Child Studies and Professor of Psychology, Human Development & Family Studies, and Education  
1998-2016 Distinguished Professor of Psychology, Human Development & Family Studies, and Education  
1998-2001 Founding Director, Child Study Center  
1987-1998 Head, Department of Psychology  
1982-1998 Associate Professor to Professor, Department of Psychology  
1976-1980 Associate Professor, Division of Individual and Family Studies, College of Human Development, The Pennsylvania State University

## POSITIONS OUTSIDE PENN STATE

- 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; 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

## FUNDING

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

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

University of Rochester, Faculty Research Grants: "The Development of Children's Cognitive Processes," Summers 1973, 1974, 1975.

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.

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

NIH Biomedical Research Support Grant, University of Pittsburgh: "Studies in Spatial Cognition," 1980-1982.

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

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

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

United Federal Savings Bank Endowment for the Enhancement of Undergraduate Instruction, 1990.

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

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

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

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

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

National Science Foundation: "Map and Spatial Skills of Children and Teachers" Principal Investigator (Collaborative). 2001-2005.

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

National Science Foundation: "Constructing Mental Images of Geologic Structures from Field Observations" Principal Investigator (Collaborative). 2004-2010.

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

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

## **ACADEMIC HONORS**

Phi Beta Kappa  
Psi Chi (President, Cornell Chapter, 1968)  
Woodrow Wilson Fellow, 1968  
Sigma Xi  
American Psychological Association, Fellow, Divisions 3, 7, and 15  
American Psychological Society, Charter Fellow  
American Educational Research Association, Charter Fellow  
Distinction in the Social Sciences Award, College of the Liberal Arts, Penn State, 1995  
Eastern Psychological Association, Fellow  
Faculty Scholar Medal for Outstanding Achievement, Penn State, 1998  
Schreyer Honors College Excellence in Teaching Award, 2007

## **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, "Thinking Spatially about the Universe," Harvard.

## **MEMBERSHIP & POSITIONS IN PROFESSIONAL SOCIETIES, NATIONAL COMMITTEES**

American Council for Co-Educational Schooling (ACCES)  
Board of Directors and Director of Research (2011-2015)  
American Educational Research Association  
American Psychological Association (Divisions 3, 7, 10, 15)  
Coalition for Psychology in Schools and Education (2007-2010)  
Credentials Committee, Division 7 (1984-1987)  
Member-at-Large, Executive Committee Division 7 (1989-1992)  
Program Chair, Division 7 (1992)  
Secretary-Treasurer, Division 7 (1992-1995)  
President, Division 7 (1995-1996)  
Task Force on Science Membership (1996)  
Advisory Committee, Center for Psychology in Schools and Education (1998-2000)  
Education and Training Chair, Division 7 (1999-2001)  
Association for Psychological Science  
Publications Committee (1998-present)  
Human Capital Initiative Steering Committee (1999-2001).  
Summit of Psychological Science Societies Steering Committee (1998-2001)  
Association of American Geographers  
Council of Graduate Departments of Psychology  
Executive Board (1994-1995)  
Liaison to APA Board of Scientific Affairs (1994-1998)  
International Associates of the Archives Jean Piaget  
Jean Piaget Society  
Board of Directors, (1979-1981, 1983-1986; ex officio 1986-1991; 1995-1996; 2008-2011; 2017-2020)  
Vice President (1979-1980)

President (1981-1983)  
National Academy of Sciences  
National Research Council Committee on Support for Thinking Spatially (2001-2003)  
Board of Science Education (2012-2018)  
National Research Council Out of School STEM Learning (2013-2015)  
National Council for Geographic Education  
National Geographic Society: Roadmap for Geographic Education Research Committee (2010-2012)  
National Institute of Health  
Behavioral & Neurosciences Study Section (1992-1996)  
National Institute of Mental Health  
Life Course Review Committee (1976-1980)  
National Science Foundation  
Committee of Visitors (2006)  
Child Learning and Development Panel (now Developmental & Learning Sciences) (1999-2001)  
Teacher Enhancement/Instructional Materials Development Panel (2000)  
Transitions from Childhood to the Workforce Blue Ribbon Panel (2000)  
Society for Research in Child Development  
President (President Elect: 2011-2013; President: 2013-2015; Past President: 2015-2017)  
Publications Committee, Chair (1997-2000), Ex officio (2000 – 2008)  
Committee on Equity and Justice (2012-present)  
Finance Committee (2011-2015)  
Task Force on the Common Rule (2012-2016)  
Initiative to Support Inclusive Participation in STEM (2012-2015)  
Social Science Research Council  
Committee on the Arts, Chair (1999-2002)

## **EDITORIAL POSITIONS**

### **Journal & Series Editorships**

*Monographs of the Society for Research in Child Development*  
Editor-Elect (2017-2018)  
Editor (2019-2024)  
*Child Development*  
Editor (2001-2008)  
*Journal of Experimental Child Psychology*  
Editor (1997-2002)  
Associate Editor (1983-1996)  
Piaget Society Symposium Series  
Series Editor (1981-1991)

### **Editorial or Advisory Boards**

:

*American Journal of Education* (2003-2007)  
*Child Development* (1982-1994)  
*Children, Youth, and Environments* (2016–present)  
*Current Directions in Psychological Science* (2003–2013)  
*Developmental Psychology* (1977-1986)  
*Genetic Epistemologist* (1980-1985)  
*Journal of Applied Developmental Psychology* (1987-present)  
*Journal of Experimental Child Psychology* (2002–2009)  
*Monographs of the SRCD* (2001)  
*Psychological Bulletin* (2010-2013)  
*Sex Roles* (1989-2002; 2008-2015)  
*Spatial Cognition and Computation* (2008–present)

## **SELECTED COLLEGE & UNIVERSITY SERVICE (Penn State)**

Committee to Restructure the College of Health & Human Development; Search Committee, Head of the Department of English; Committee on the Center for Applied Behavioral Science; Committee on the Revision of Tenure and Promotion Procedures; Advisory Board of the Institute of Policy Research and Evaluation; Honorary Degree Committee; Search Committee, Dean of the College of the Liberal Arts; Committee on the Establishment of the Social Science Consortium; Strategic Planning Committee, College of the Liberal Arts, Steering Committee, Children Youth & Family Consortium; Faculty Scholar Selection Panel (Chair): Social and Behavioral Sciences, Diversity Enhancement Committee; Advisory Board, Presidential Leadership Academy; College of Liberal Arts Promotion & Tenure Committee; Department of Psychology Graduate Training Committee.

## **PUBLICATIONS**

### **Reviews**

- Liben, L. S. (1975). Development and memory improvement. *Contemporary Psychology*, 20, 1-3.
- 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. (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. (1980). Representing, using and designing space: Review of an interdisciplinary life span conference. *Human Development*, 23, 210-216.
- 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. (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. (1994). Capturing the artistic core: Review of C. Golomb, The child's creation of a pictorial world. *Journal of Aesthetic Education*, 28, 63-68.
- 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.

### **Articles and Chapters**

- Iannucci, D., Liben, L. S., & Anisfeld, M. (1968). Some determinants of stylistic phonological variations. *Journal of Verbal Learning and Verbal Behavior*, 7, 956-961.
- Liben, L. S. (1974). Operative understanding of horizontality and its relation to long-term memory. *Child Development*, 45, 416-424.
- 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. (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. (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. (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. (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., & 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. (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., & Belknap, B. (1981). Intellectual realism: Implications for investigations of perspective-taking in young children. *Child Development, 52*, 921-924.
- 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.
- 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. (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.
- 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. (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. 1. 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.
- 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.
- Golbeck, S. L., & Liben, L. S. (1988). Children's representation of the environment. *Children's Environment Quarterly*, 5, 46-53.
- 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.
- 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. (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.
- 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.

- 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. (1994). Fostering geographic literacy from early childhood: The contributions of interdisciplinary research. *Journal of Applied Developmental Psychology, 15*, 549-569.
- 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., & 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., & 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.
- 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.
- 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.
- 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.
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- Liben, L. S. (2000). Map use and the development of spatial cognition: Seeing the *bigger picture*. *Developmental Science*, 3, 270-274.
- 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.
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- 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.
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- 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. doi:10.1111/cdev.12463
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- 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.

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### **Books, Monographs, and Reports**

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Liben, L. S., & Signorella, M. L. (Eds.). (1987). *Children's gender schemata*. San Francisco: Jossey-Bass.

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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.

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## PRESENTATIONS 2010 →

- Liben, L. S. (2010, February). Developmental pathways to map understanding. Psychology Department Colloquium, Tulane University, New Orleans.
- 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., & Hilliard, L. J. (2010, April). Preschoolers' gender vigilance: Effects of classroom organization. Poster presentation at the Gender Development Research Conference, San Francisco.
- 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.
- 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.
- 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.
- 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.
- 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 10<sup>th</sup> Anniversary Celebration, Penn State, University Park, PA.
- 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. .
- 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.
- 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.
- Liben, L. S. (2010, September). Cognitive development as a foundation for understanding geospatial representations. Keynote Address at GIScience. Zurich, Switzerland.
- Liben, L. S. (2010, October). The National Geographic Bee: Where are the girls? Symposium presentation at the National Council for Geographic Education, Savannah, Georgia.
- Liben, L. S. (2011, March). The great beyond: Expanding children's and researchers' notions of symbolic development. Symposium presentation at the biennial meetings of the Society for Research in Child Development. Montreal, Canada.
- 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 meetings 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 meetings 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 Association of American Geographers. Seattle, WA.
- Liben, L. S. (2011, May). From universality to individuality in gender development: Evolving perspectives, methods, and applications. Festschrift in honor of Aletha C. Huston, Austin TX.
- 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.
- Hilliard, L. J., & Liben, L. S. (2011, August). Beliefs and practice: Addressing bias with children. Presentation in symposium *Parenting in and about diverse contexts* (L. J. Hilliard, chair). American Psychological Association, Washington, D.C.
- 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.
- 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 meetings 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. Center for Research on Culture, Development, and Education. New York University, New York.

- Liben, L. S., (2012, March) Spatial cognition as a foundation for representational competence. Invited Keynote Address at the Meetings of the Eastern Psychological Association, Pittsburgh, PA.
- Bigler, R. S. & Liben, L. S. (2012, April). Reducing sexism in schools: Is single-sex schooling a solution? Symposium presentation at the meetings 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 meetings of the American Educational Research Association, Vancouver.
- Liben, L. S. (2012, April). Making STEM girly or making girls STEMy? 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. (2012, June). From the lab to the real world: What is lost and what is found? Invited presentation at Realism to Relevance: An Ecological Approach to Perception, Action, and Cognition, A Festschrift to Honor Herbert L. Pick, Jr. Minneapolis.
- 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, 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. (2013, February). Spatial concepts as foundations for educational, occupational, and daily tasks. Invited colloquium, University of Pennsylvania, Philadelphia.
- 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 meetings 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 meetings 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 meetings 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 meetings 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 meetings of the Society for Research in Child Development, Seattle.
- 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.
- 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, June). Children's gendered beliefs and actions: Yes, words *do* matter! Keynote address in the European Training Network Conference on Language, Cognition and Gender, University of Bern, Bern Switzerland.
- 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, November). Individual ↔ context relations in developmental intergroup theory: Explaining and optimizing social-group relationships. Keynote address at 8<sup>th</sup> Biennial Meeting of the Society for the Study of Human Development, Fort Lauderdale, FL.
- Borriello, G. A., & Liben, L. S. (2014, May). Mothers' responsiveness to instructions to facilitate preschoolers' spatial thinking during play. Symposium presentation at the 1<sup>st</sup> 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.
- 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 1<sup>st</sup> PA Spatial Cognition Symposium. Pennsylvania State University, PA.
- Liben, L. S. (2014, June). Gender, spatial thinking, & STEM in formal & informal educational contexts. Presentation at the National Summit on Successful OST STEM Learning. National Academy of Sciences, Washington D.C.
- 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, July). Gender, spatial thinking, & STEM in formal & informal educational contexts. Keynote address, Gender and STEM Conference, Berlin.
- 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. (2015, March). Preschoolers' mechanical learning from a STEM toy: The roles of parental guidance and gender-targeted marketing. Poster presented at the 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 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.
- Liben, L. S. (2015, March). *We've come a long way baby! (But we're not there yet.)* Presidential Address, the Biennial Meetings of the Society for Research in Child Development, Philadelphia, PA.
- 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 meetings 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 meetings of the Cognitive Development Society, Columbus, OH.
- 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 meetings 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.
- Liben, L. S. (2016, April). Single-sex schooling: The good, the bad, & the who knows? What gender science brings to the debate. Presentation at Beloit College. Beloit, WI.
- Liben, L. S. (2016, April). Children's developing understanding of images: The role of parents, schools, & museums. Presentation at Beloit College. Beloit, WI.
- Liben, L. S. (2016, May). Gender past, present, & future: A developmental psychologist's perspective. Presentation at Carleton College. Northfield, MN.
- 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 meetings 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 meetings 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 meetings of the Jean Piaget Society, Chicago, IL.
- Liben, L. S. (2016, June). Developing an understanding of real and represented spaces. Plenary address at the annual meetings of the Jean Piaget Society, Chicago, IL.
- Liben, L. S. (2016, November). You've come a long way, baby! *A developmental psychologist's view of gender*. 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.
- 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.
- 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 meetings of the Society for Research in Child Development. Austin, TX.
- 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 meetings 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 meetings 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 meetings 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 meetings of the Society for Research in Child Development. Austin, TX.