

Spencer D. Kelly

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CURRENT APPOINTMENT

Associate Professor, Psychology Department, Neuroscience Program, Colgate University

AREAS OF SPECIALIZATION

Language processing and development, neural integration of multimodal communication, hand gestures

EDUCATION

1999 **Ph.D.** Developmental Psychology, University of Chicago
1997 **M.A.** Developmental Psychology, University of Chicago
1991 **B.A.** Japanese History, Washington University, St. Louis

ACADEMIC APPOINTMENTS

Associate Professor Department of Psychology, Neuroscience Program, Colgate University, 2007-present

Visiting Scientist Language Production Group, Max Plank Institute for Psycholinguistics, Nijmegen, The Netherlands, spring 2009

Visiting Scholar Allen Edwards Lecturer, Department of Psychology, University of Washington, fall 2008

Assistant Professor Department of Psychology, Neuroscience Program, Colgate University, 2001-2007

Post-doctoral Researcher Department Brain and Psychological Sciences, University of Louisville, 1999-2001

FELLOWSHIPS, GRANTS & AWARDS

2009 Gastwissenschaftler at the MPI for Psycholinguistics, Nijmegen, Netherlands
2009 Picker Research Fellowship, Colgate University (\$2,100)
2007 Gastwissenschaftler at the MPI CBS, Leipzig, Germany
2007-2009 Picker Interdisciplinary Research Grant, Colgate University (\$82,000)
2005-2006 Picker Research Fellowship, Colgate University (\$6,000)
1999 Pre-Doctoral National Research Service Award, University of Chicago

1998-1999 William Rainey Harper Dissertation Fellowship, University of Chicago
1998 John Dewey Lectureship Prize, University of Chicago
1994-1998 Division of Social Sciences Scholarship, University of Chicago

PROFESSIONAL AFFILIATIONS

Association of Psychological Science
Cognitive Science Society

Cognitive Neuroscience Society
International Society for Gesture Studies

PUBLICATIONS

Peer-Reviewed Journal Articles

- Hirata, S. D., & Kelly, S. (in press). The effects of lips and hands on auditory learning of second language speech sounds. *Journal of Speech, Language and Hearing Research*.
- Kelly, S. D., Creigh, P., & Bartolotti, J. (in press). Integrating speech and iconic gestures in a Stroop task: Evidence for automatic processing. *Journal of Cognitive Neuroscience*.
- Kelly, S. D., Özyürek, A., & Maris, E. (2010). Two sides of the same coin: Speech and gesture mutually interact to enhance comprehension. *Psychological Science, 21*, 260-267.
- Kelly, S. D., McDevitt, T., & Esch, M. (2009). Brief training with co-speech gesture lends a hand to word learning in a foreign language. *Language and Cognitive Processes, 24*, 313-334.
- Pratt, N., & Kelly, S. D. (2008). Emotional states influence the neural processing of affective language. *Social Neuroscience, 3*, 434-442.
- Kelly, S. D., Manning, S., & Rodak, S. (2008). Gesture gives a hand to language and learning: Perspectives from cognitive neuroscience, developmental psychology and education. *Language and Linguistics Compass, 2*, 1-20.
- Özyürek, A., & Kelly, S. D. (2007). Gesture, brain, and language. *Brain and Language, 101*, 181-184.
- Kelly, S. D., Ward, S., Creigh, P., & Bartolotti, J. (2007). An intentional stance modulates the integration of gesture and speech during comprehension. *Brain and Language, 101*, 222-233.
- Molfese, D. L., Fonaryova Key, A. Kelly, S., Cunningham, N., Terrell, S., Fergusson, M., Molfese, V. & Bonebright, T. (2006). Below-average, average, and above-average readers engage different and similar brain regions while reading. *Journal of Learning Disabilities, 39*, 352-363.
- Kelly, S. D., & Goldsmith, L. (2004). Gesture and right hemisphere involvement in evaluating lecture material. *Gesture, 4*, 25-42.

- Kelly, S. D., Kravitz, C., & Hopkins, M. (2004). Neural correlates of bimodal speech and gesture comprehension. *Brain and Language, 89*, 253-260.
- Molfese, D. L., Molfese, V. J., Fonaryova Key, A., & Kelly, S. D. (2003). Influence of environment on speech-sound discrimination: Findings from a longitudinal study. *Developmental Neuropsychology, 24*, 541-558.
- Molfese, D. L., Molfese, V. J., Key, S., Mogdlin, A. & Kelly, S., & Terrell, S. (2002). Reading and cognitive abilities: Longitudinal studies of brain and behavior changes in young children. *Annals of Dyslexia, 52*, 121-140.
- Kelly, S. D., Iverson, J., Terranova, J., Niego, J., Hopkins, M., & Goldsmith, L. (2002). Putting language back in the body: Speech and gesture on three timeframes. *Developmental Neuropsychology, 22*, 323-349.
- Kelly, S. D., Singer, M., Hicks, J., & Goldin-Meadow, S. (2002). A helping hand in assessing children's knowledge: Instructing adults to attend to gesture. *Cognition and Instruction, 20*, 1-26.
- Goldin-Meadow, S., Nusbaum, H., Kelly, S. D., & Wagner, S. (2001). Explaining math: Gesture lightens the load. *Psychological Science, 12*, 516-522.
- Molfese, D., Molfese, V., & Kelly, S. D. (2001). The use of brain electrophysiology techniques to study language and reading: A basic guide for the beginning consumer of electrophysiology information. *Learning Disabilities Quarterly, 24*, 177-188.
- Kelly, S. D. (2001). Broadening the units of analysis in communication: Speech and nonverbal behaviours in pragmatic comprehension. *Journal of Child Language, 28*, 325-349.
- Church, R. B., Kelly, S. D., & Lynch, K. (2000). Multi-modal processing over development: The case of speech and gesture detection. *Journal of Nonverbal Behavior, 24*, 151-174.
- Kelly, S. D., Barr, D., Church, R. B., & Lynch, K. (1999). Offering a hand to pragmatic understanding: The role of speech and gesture in comprehension and memory. *Journal of Memory and Language, 40*, 577-592.
- Kelly, S. D., & Church, R. B. (1998). A comparison between children's and adults' ability to detect children's representational gestures. *Child Development, 69*, 85-93.
- Kelly, S. D., & Church, R. B. (1997). Children's ability to detect nonverbal behaviors from other children. *Cognition and Instruction, 15*, 107-134.
- Church, R. B., Schonert-Reichl, K., Goodman, N., Kelly, S. D., & Ayman-Nolley, S. (1995). The role of gesture and speech communication as reflections of cognitive understanding. *Journal of Contemporary Legal Issues, 65*, 123-140.

Commentaries

Kelly, S. D. (2005). The body as a cognitive artifact in kinship representations: Hand gesture diagrams by speakers of Lao—Commentary. *Current Anthropology*, 46, 74-75.

Kelly, S. D. (2003). From past to present: Speech, gesture and brain in present-day human communication. *Behavioral and Brain Sciences*, 26, 230-231.

Conference Proceedings

Kelly, S. D., Ward, P., & Creigh, P. (2005). Does a communicator's intent play a role in the brain's comprehension of speech and gesture? *Proceedings of the Second Annual International Society for Gesture Studies*, 220-221.

Kelly, S. D., & Kravitz, C. (2004). Does gesture play a special role in the brain's processing of language? *Proceedings of the Twenty-Sixth Annual Conference of the Cognitive Science Society*, 28.

Barr, D., & Kelly, S. D. (1997). Nonverbal factors in understanding and remembering indirect requests. *Cognitive Science Abstracts*, 56-61.

Manuscripts Under Review

Kelly, S. D., & Lee, A. (under review). When actions speak too much louder than words: Gesture disrupts semantic processing when phonological demands are high. *Cognition*.

INVITED TALKS AND COLLOQUIA

Social Psychology Colloquium, Yale University, 2010

Gesture Seminar, University of Chicago, 2009

Symposium, Nijmegen Gesture Center, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, 2009

Centre of Excellence in Computational Complex Systems Research Seminar, Helsinki University of Technology, Finland, 2009

Department of Psychology, Sapienza—Università di Roma, Rome, Italy, 2009

Student Seminar, Sapienza—Università di Roma, Rome, Italy, 2009

CRC Colloquium, Alignment in Communication, University of Bielefeld, Germany

Psychology Colloquium, University of Manchester, England, 2009

Psychology Colloquium, University of Birmingham, England, 2009

Guest Talk, Max Planck Institute for Evolutionary Anthropology (MPI EVA), Leipzig, Germany, 2009

Guest Talk, Max Planck Institute for Human Cognitive and Brain Sciences (MPI CBS), Leipzig, Germany, 2009

Gesture Seminar, Erasmus University of Rotterdam, The Netherlands, 2009

Nijmegen Gesture Center, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, 2009

Department of Speech and Hearing Sciences, University of Washington, 2008

Research Seminar, Institute for Learning and Brain Sciences, University of Washington, 2008

Allen Edwards Lecture, University of Washington, 2008

Advanced Telecommunications Research (ATR) Institute International, Kyoto, Japan, 2008

Humanities Colloquium (with Dr. Yukari Hirata), Colgate University, 2008

Mellon Lecture, Hamilton College, 2007
 Gastwissenschaftler Lecture, Max Planck Institute for Human Cognitive and Brain Sciences (MPI CBS), Leipzig, Germany, 2007
 Psychology Department, The Chinese University of Hong Kong, 2007
 Psychology Department, Rutgers University, 2006
 Neurocognition of Gesture Workshop, Max Planck Institute for Human Cognitive and Brain Science (MPI CBS), Leipzig, Germany, 2006
 Center for Interdisciplinary Research (ZiF), Embodied Communication in Humans and Machines, University of Bielefeld, Bielefeld, Germany, 2006
 Language and Cognition Colloquium, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, 2005
 Gesture Colloquium, Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, 2005
 Language and Literacy Development across the Life Span (LANSPAN) Group, University of Groningen, The Netherlands, 2005
 Developmental Psychology Colloquium, Queen's University, Canada, 2004
 Psychology Department, University of California Los Angeles, 2003
 Acoustic Ecology Communication in Noisy Environments Workshop, University of British Columbia, Canada, 2003
 Gesture and Development Symposium, Jean Piaget Society, Philadelphia, 2002
 Psychology Department, University of California San Diego, 2001
 Educational Psychology Department, University of Maryland, 2001
 Psychology Department, Emory University, 2001
 Psychology Department, Carnegie Mellon University, 2001
 Cognition and Communication Colloquium, Indiana University, 2000
 Psychology Colloquium, Northeastern Illinois University, 1999

PROFESSIONAL PRESENTATIONS

- Kelly, S. D., Hansen, B. C., & Sobo, J. (October, 2009). "Slight" of hand: The integration of speech and visually degraded hand gestures. Poster presented at the Neurobiology of Language conference in Chicago, IL.
- Kelly, S. D., & Hirata, Y. (October, 2008). Tongues, hands and brains: Language learning and development. Co-organizers of the first annual international symposium for the Picker Institute for Interdisciplinary Research in the Sciences and Mathematics at Colgate University, NY.
- Hirata, Y., Kelly, S. D., Cullings, E., Demakakos, J., Simester, J., & Burch, J. (August, 2008). Multimodal learning of Japanese speech sounds by native English speakers. Poster presented at the Worldcall '08 conference in Fukuoka, Japan.
- Kelly, S. D., Hirata, Y., Simester, J., Burch, J., Cullings, E., Demakakos, J. (July, 2008) Effects of hand gesture and lip movements on auditory learning of second language speech sounds. Poster presented at the Acoustics '08 conference in Paris, France.

- Kelly, S. D. & Hirata, Y. (May, 2008). Hand gestures facilitate learning words but not phonemes in a second language. Poster presented at the Association for Psychological Sciences annual conference in Chicago, IL.
- Kelly, S. D. (March, 2008). Brief training with iconic gesture lends a hand to word learning in a foreign language. Paper presented at the American Educational Research Association conference, New York, NY.
- Kelly, S. D., Bartolotti, J., & Creigh, P. (June, 2007). The integration of gesture and speech may be a default but not exclusively automatic process. Paper presented at the International Society for Gesture Studies conference, Chicago, IL.
- Kelly, S. D., Özyürek, A., & Maris, E. (June, 2007). On-line interactions between speech and gesture during comprehension. Paper presented at the International Society for Gesture Studies conference, Chicago, IL.
- Church, R. B., Kelly, S. D., & Ayman-Nolley, S. (June, 2007). The impact of gesture on speech processing: Evidence from behavioral and ERP data. Paper presented at the Jean Piaget Society conference, Amsterdam, The Netherlands.
- Kelly, S. D., Esch, M., & McDevitt, T. (May, 2007). Neural correlates of learning Japanese words with and without iconic hand gesture. Poster presented at the Cognitive Neuroscience Society conference, New York, New York.
- Wakeman, D. G., & Kelly, S. D. (October, 2006). Irony and emotional context influence event-related potentials. Poster to be presented at the Society for Neuroscience Annual Convention, Atlanta, GA.
- Donovan, K., McDevitt, T., & Kelly, S. D. (May, 2006). Iconic gestures help children and adults learn and remember foreign verbs. Poster presented at the Association for Psychological Science (APS) conference, New York, New York.
- Ward, S., Creigh, P., & Kelly, S. D. (May, 2006). Communicative intentions influence the neural integration of gesture and speech. Poster presented at the Association for Psychological Science (APS) conference, New York, New York.
- Kelly, S. D., Ward, S., & Creigh, P. (June, 2005). The role of intention in the brain's semantic integration of speech and gesture. Paper presented at the International Society for Gesture Studies (ISGS) conference, Lyon, France.
- Pratt, N., Kelly, S. D., & Lartaud, D. (February, 2005). Mood affects the processing in the brain of affective language. Paper presented at the International Neuropsychological Society, St. Louis, MO.
- Wakeman, D. G., Lesak, K., Barnes, M., Key, A. F., Cunningham, N., Kelly, S. D., Gozal, D., Robinson, S., Molfese, D. L. (February, 2005). Sleep Apnea Changes the Brain's Processing of Syllables in Children. Poster presented at the International Neuropsychological Society, St. Louis, MO.

- Kelly, S. D. & Kravitz, C. (August, 2004). Does gesture play a special role in the brain's processing of language? Paper presented at the meeting of the Cognitive Science Society, Chicago, IL.
- Kelly, S. D., & Schwoegler, M. (October, 2003). Multimodal experience changes the brain during word learning. Paper presented at the meeting of the Cognitive Development Society, Park City, UT.
- Molfese, D. L., Fonaryova Key, A., Molfese, V., Kelly, S., Cunningham, N., Ramage, C., Terrell, S. & Ferguson, M. (February, 2003). Brain response differences between dyslexic, average, and advanced readers. Paper presented at the meeting of the Society for Research in Child Development, Tampa Bay, FL.
- Molfese, D.L., Molfese, V., Fonaryova Key, S., Kelly, S., Kelley, M., Wilson, T., Cunningham, N. & Ramage, C. (February, 2003). High-density array electrode systems identify dynamic processes during speech perception in newborn infants. Paper presented at the 31st Annual Meeting of the International Neuropsychological Society, Honolulu Hawaii.
- Vossen, M., Molfese, D. L., Fonaryova-Key, A., Kelly, S. D., Maldonado, C., Kon, M., & Barker, J. H. (April, 2002). Brain plasticity following hand transplantation. 37th Congress of the European Society for Surgical Research, Szeged, Hungary.
- Vossen, M., Molfese, D. L., Fonaryova-Key, A., Kelly, S. D., Maldonado, C., Barker, J. H., & Kon, M. (April, 2002). Cortical reorganization following hand transplantation ("Corticale reorganisatie na donor handtransplantatie"). Netherlands Society for Plastic Surgery. Veldhoven, The Netherlands.
- Molfese, V. J., Molfese, D. L., S., Terrell, M., Ferguson, M., Fonaryova Key, A. Kelly, S., Cunningham, N., Ramage, C. (October, 2001). Language, reading, and mathematics abilities in preschool children: evidence of skills from behavior and brain processing. Research! Louisville. Louisville, Kentucky.
- Molfese, D. L., Fonaryova Key, A. Kelly, S. D., Cunningham, N., Ramage, C., Wambacq, I., Molfese, V., Terrell, S., & Ferguson, M. (October, 2001). Brain response differences in dyslexia, average and above average readers. Research! Louisville. Louisville, Kentucky.
- Kelly, S. D. (November, 2000). Nonverbal indexicality and children's emerging understanding of advanced pragmatic communication. Paper presented at the Boston University Child Language Conference, Boston, Massachusetts.
- Molfese, D., Key, A. F., Mervis, C., Kelly, S. D., Robinson, S., Mrozowski, K., & Barber, A. (July, 2000). Electrophysiological correlates of speech processing in children with

Williams syndrome. Poster presented at the VIIIth International Williams Syndrome Professional Meeting, Dearborn, Michigan.

Kelly, S. D. & Garber, P. (June, 1999). Broadening the units of analysis in studying communication: The case of nonverbal pointing behaviors and indirect requests. Paper presented at the Jean Piaget Society, Mexico City, Mexico.

Kelly, S. D. (April, 1999). Are we missing the point?: The role of gesture in children's understanding of pragmatic meaning. Paper presented at the meeting of the Society for Research in Child Development, Albuquerque, NM.

Church, R. B., Ayman-Nolley, S., Alibali, M. W., & Kelly, S. D. (April, 1999). Can we learn something from televised speech and gesture? Paper presented at the meeting of the Society for Research in Child Development, Albuquerque, NM.

Church, R. B., Kelly, S. D., & Lynch, K. (June, 1998). The link between verbal and nonverbal representations for the observer of communication: A developmental study. Paper presented at the Jean Piaget Society, Chicago, IL.

Barr, D., & Kelly, S. D. (June, 1997). Have we been missing the point: The role of gesture in understanding indirect requests. Paper presented at the Cognitive Science conference, Palo Alto, CA.

Schwaba, T., Lynch, K., Kelly, S. D., & Church, R. B. (June, 1997). Conservation effect in gestural detection in children and adults. Paper presented at the Jean Piaget Society, Santa Monica, CA.

Kelly, S. D., Schwaba, T., & Church, R. B. (April, 1997). Understanding the association between verbal and nonverbal representations in memory: A developmental perspective. Paper presented at the meeting of the Society for Research in Child Development, Washington D.C.

Kelly, S. D., & Church, R. B. (June, 1996). Two ways of assessing detection of speech and gesture. Paper presented at the Jean Piaget Society, Philadelphia, PA.

Singer, M., Kelly, S. D., Garber, P., & Church, R. B. (April, 1996). Identifying conscious and unconscious levels of reasoning and the role that these levels play in social interaction. Paper presented at the meeting on "The State of Consciousness," Tucson, AZ.

Kelly, S. D., & Church, R. B. (May, 1995). Adults' and children's ability to detect gestural information. Paper presented at the Midwest Psychological Association meetings, Chicago, IL.

Kelly, S. D., & Church, R. B. (April, 1995). Using gesture to determine how the learner influences the learning process. Paper presented at the meeting of the Society for Research in Child Development, Indianapolis, IN.

Kelly, S. D., & Church, R. B. (May, 1994). Children's capacity to detect spontaneous gesture.
Poster presented at the Midwest Psychological Association meetings, Chicago, IL.

COURSES TAUGHT

Introduction to Psychology: Lecture course for psychology concentrators and non-concentrators
Brain and Behavior: Introductory course for neuroscience and psychology concentrators
How to Build a Baby: Freshmen seminar core course in Scientific Perspectives
Research Methods: Lab course for psychology and behavioral neuroscience concentrators
Language and Thought: Upper-level seminar for psychology and neuroscience concentrators
Cognitive Neuroscience: Upper-level seminar for psychology and neuroscience concentrators
Cognitive Research Seminar: Required seminar for psychology students doing senior research
Senior Honors Research: Supervise psychology and neuroscience year-long honors projects

EDITORIAL AND REVIEWER ACTIVITY

Journal Review

Behavioral and Brain Sciences; Behavioural Brain Research; Brain and Language; British Journal of Psychology; Cerebral Cortex; Cognition; Cognition and Instruction; Cognitive Science; Developmental Neuropsychology; Developmental Psychology; Developmental Science; First Language; Gesture; Journal of Child Language; Journal of Cognitive Neuroscience; Journal of Experimental Psychology: Language and Cognitive Processes; Language and Linguistic Compass; Learning, Memory and Cognition; Journal of Nonverbal Behavior; Journal of Personality and Social Psychology; Language and Cognitive Processes; Language Learning and Development; Neuropsychologia; Physiology & Behavior, Psychological Bulletin; Trends in Cognitive Science

Guest Editor

Special Issue of Brain and Language (2007): "Gesture, Brain and Language"

Grant Review

MRC Neuroscience and Mental Health Board; NSF Cognition and Communication Program; NSF Cognitive Neuroscience Initiative; NSF CAREER; Netherlands Organization for Scientific Research; Social Sciences and Humanities Research Council of Canada

UNIVERSITY AND COMMUNITY SERVICE

Search Committee, President of Colgate, 2009
Co-leader for a COVE St. Bernard's Parish project in New Orleans, LA (winter, 2010)
Co-leader for a COVE Habitat for Humanity project in Beaumont, TX (winter, 2009)
Member of the Institutional Review Board committee, fall 2001-present
Woman's Basketball faculty advisor, fall 2002-present
Sigma Chi Fraternity faculty advisor, fall 2002-present
Member of the Health Sciences Advisory Board, fall 2003-present
Member of the Student Disciplinary Board, spring 2003, fall 2005-present
Ad hoc member of the Animal Care and Use committee, fall 2003
Member of Advisory Committee for Interdisciplinary Science Research, fall 2005-present
Member of the Chenango Nursery School Board, fall 2005-2008

MEDIA COVERAGE

- “The body politic,” the *Orlando Sentinel*, 7/31/04
- “Election 2004: What’s in a gesture?” the *Atlanta Journal-Constitution*, 9/26/04
- “Live from Miami!” *New York Times*, 9/26/04
- “Face of the debates,” Viewpoints (*MediaTracks* syndicated radio program), 9/29/04
- “Expressions and gestures,” *Netherlands National Public Television*, 9/30/04
- “The Presidential debates,” *WKTV-TV*, 10/13/04
- “Colgate professors scrutinize subtle,” *Syracuse Post-Standard*, 10/14/04
- “The history of the “V” gesture,” *Radio 3 Hong Kong*, 7/20/06
- “Gestures offer insight,” *Scientific American Mind*, 10/15/06
- “Body politics,” *ScienCentral News*, 11/3/06
- “The body politic,” *Adweek*, 3/31/08
- “Gesture and foreign language learning,” *King 5 TV*, 1/21/09
- “Baby gestures linked to vocabulary development.” *US News and World Reports*, 2/12/09
- “Gestures matching words enhance message.” United Press International, 1/6/10