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Keith James Holyoak

Personal Information

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Citizenship: United States & Canada

Education

University of British Columbia, B.A. (1971) in psychology
Stanford University, Ph.D. (1976) in psychology

Academic Appointments

Distinguished Professor of Psychology, University of California, Los Angeles, 2004-present
Visiting Professor of Psychology (honorary), National University of Singapore, 2014
Professor of Psychology, University of California, Los Angeles, 1986-2004
Vice-Chair for Academic Personnel, Dept. of Psychology, UCLA, 2002-2006
Co-Director, Cognitive Science Research Program, 1989-92
Member, Brain Research Institute, 1991-present
Professor of Psychology, University of Michigan, 1986
Associate Professor of Psychology, University of Michigan, 1981-1986
Visiting Scholar, LRDC, University of Pittsburgh, 1985-1986
Visiting Associate Professor of Psychology, Carnegie-Mellon University, 1984-1985
Assistant Professor of Psychology, University of Michigan, 1976-1981

Research Interests

Analogy, induction, and problem solving
Computational models of cognition
Cognitive neuroscience
Educational applications of technology

Awards

UCLA Dept. of Psychology Distinguished Service Award, 2005
James McKeen Cattell Fellow, 1999
John Simon Guggenheim Fellow, 1991
NIMH Research Scientist Development Award, 1981-1986
Rackham Faculty Fellowship, University of Michigan, 1976
Stanford University Fellowship, 1972-1975
British Columbia Psychological Association Gold Medal, 1971

Honorary Fellowships and Offices in Scientific Organizations

Fellow, American Association for the Advancement of Science (from 2003)
Fellow, Cognitive Science Society (from 2006); Chair of Governing Board (1994-1995);

Member of Governing Board (1992-1998)
 Fellow, Association for Psychological Science (from 1993)
 Fellow, Society for Experimental Psychology (from 1990)
 Nominating committee member, AAAS Section J (2007-2009, 2012-2014)

Professional Service

Editorships:

Editor, *Psychological Review*, 2016-
 Editor, *Cognitive Psychology*, 1995-1999
 Senior Editor, *Cognitive Science*, 1990-1992
 Associate Editor, *Cognitive Psychology*, 2000-present
 Associate Editor, *Psychological Science*, 2012-present
 Guest Co-editor, Special section on analogy and metaphor, *J. of Experimental Psychology: Learning, Memory, and Cognition*, 2012

Member of Editorial Board:

Journal of Experimental Psychology: General, 1988-1995; 2007-2011
Thinking & Reasoning, 1993-present
Adaptive Behavior, 1991-2016
Cognitive Psychology, 1990-1995; 2000-2016
American Journal of Psychology, 1988-2008
Psychological Science, 2001
Cognitive Science, 1992-2000
Journal of Experimental Psychology: Learning, Memory, and Cognition, 1984-1987
Memory & Cognition, 1977-1990

Ad Hoc Reviewer:

Journals

American Psychologist, *Applied Cognitive Psychology*, *Behavioral and Brain Sciences*, *Brain and Cognition*, *Brain Research*, *Cerebral Cortex*, *Child Development*, *Cognition*, *Cognition and Instruction*, *Cognitive Development*, *Cognitive Neuroscience*, *Cognitive Systems Research*, *Developmental Psychology*, *European Journal of Cognitive Psychology*, *Journal of Cognitive Neuroscience*, *Journal of Experimental Child Psychology*, *Journal of Experimental Psychology: Human Perception and Performance*, *Journal of Experimental Social Psychology*, *Journal of General Psychology*, *Journal of Medical Informatics*, *Journal of Memory and Language*, *Journal of Neuroscience*, *Journal of Personality and Social Psychology*, *Nature Neuroscience*, *Neuropsychologia*, *Perception & Psychophysics*, *Perspectives on Psychological Science*, *PLoS Computational Biology*, *Political Psychology*, *Proceedings of the National Academy of Sciences (USA)*, *Psychological Bulletin*, *Psychological Review*, *Psychological Science*, *Psychological Science in the Public Interest*, *Psychology and Aging*, *Psychonomic Bulletin and Review*, *Review of General Psychology*, *Science*, *Scientific Study of Literature*, *Trends in Cognitive Sciences*

Government & Private Agencies, Conferences, and Publishing Companies

Guggenheim Foundation, National Science Foundation, National Institute of Education, National Science and Engineering Council (Canada), Social Science & Humanities Research Council (Canada), Biotechnology & Biological Sciences Research Council (UK), Australian Research Council, Conferences of Cognitive Science Society, Program Committee, Advanced Computing in the Social Sciences, (Energy Division of Oakridge National Laboratory), Adjudicator: Ontario Premier's Discovery Awards Program, MIT Press, Harcourt Brace Jovanovich, Lawrence Erlbaum Associates, Prentice-Hall, Harvard University Press, Princeton University Press, Oxford University Press, Wiley & Sons

Advisory Panel Memberships and Workshops:

Member of Advisory Board, Society for the Neuroscience of Creativity (from 2017)
 External advisory board, Grawemeyer Prize in Psychology, 2012
 External review panel, U. of British Columbia Psychology Dept., 2009
 Co-organizer, 2nd International Conference on Analogy, Sofia, Bulgaria, 2009
 NSF workshop on Higher Cognition in Adolescents, 2008
 NIH panel, 2005
 Chair of judging panel, APA Early Career Award in cognition/learning, 2004
 NSF workshop on Knowledge Transfer, 2002
 NSF Learning & Intelligent Systems initiative, 1997
 Co-organizer, 1st International Conference on Analogy, Sofia, Bulgaria, 1998
 NIMH Subcommittee on Thinking and Communication, 1993
 International Advisory Board, Dept. of Cognitive Science, New Bulgarian University
 Editorial Advisory Board, Issues in Thinking and Reasoning, Erlbaum (UK)
 Editorial Advisory Board, Advances in the Psychology of Thinking, Simon & Schuster
 NSF Memory and Cognitive Processes Panel, 1980-1981
 NSF/NIE Program in Science and Mathematics Education, 1978

Teaching Experience

University of California, Los Angeles 1986-present

Undergraduate

Psychology 10, Introduction to Psychology
 Psychology 120A, Cognitive Psychology
 Psychology 121, Laboratory in Cognitive Psychology
 Psychology 124F (Psychology Honors Program), Thinking
 Psychology 185, Cognitive Science

Graduate

Psychology 264, Thinking
 Psychology 269, Analogy in the Mind and Brain
 Psychology 269, Applications of Technology for Mathematics Teaching and Learning
 Psychology 269, Causal Knowledge and Cognitive Evolution
 Psychology 269, Induction and Knowledge Acquisition
 Psychology 269, Metaphor and Cognition
 Psychology 269, The Adaptive Character of Memory and Thinking
 Neuroscience 211A, Mental Imagery
 Anthropology 297, Cognitive Science & Anthropology of the Supernatural

University of Michigan, 1976-1986

Undergraduate

Psychology 310, Experimental Psychology Lab
 Psychology 443, Psychology of Thinking
 Psychology 447, Psychology of Language
 Psychology 448, Learning and Memory
 Psychology 518, Learning and Memory Lab

Graduate

Psychology 646, Pro-Seminar in Cognitive Psychology
 Psychology 745, Psychology of Language
 Psychology 746, Human Learning and Memory

Psychology 908, Seminar on Categorization
Psychology 948, Seminar on Language Induction

Stanford University, 1972-1976

Teaching Assistant for introductory psychology and psycholinguistics courses

Former PhD and Post-doctoral Students

Associate and Full Professors

Bruce Burns (Psychology, U. of Sydney, Australia), Richard Catrambone (Psychology, Georgia Tech), Soohyun Cho (Psychology, Chung-Ang University, South Korea), Meredith Gattis (Psychology, Cardiff U., UK), Mary Gick (Psychology, Carleton U., Canada), Dan Krawczyk (Behavioral & Brain Sciences, U. of Texas at Dallas), Jim Kroger (Psychology, New Mexico State U.), Heeseung Lee (Education, Yonsei University, South Korea), Robert Morrison (Psychology & Neuroscience, Loyola U. Chicago), Laura Novick (Psychology & Human Development, Vanderbilt U.), Lindsey Richland (Education, UC Irvine), Carol Seeger (Psychology, Colorado State U.), Bobby Spellman (Psychology & Law, U. of Virginia), Regina Vollmeyer (Psychology, U. of Potsdam, Germany), Michael Waldmann (Psychology, U. of Goettingen, Germany), James Waltz (Psychiatry, U. of Maryland)

Research Scientists, Lecturers and Post-doctoral Fellows

Michael Vendetti (Oracle), Melissa DeWolf (Microsoft), Guido Schauer (Behavioral & Brain Sciences, U. of Texas at Dallas), Derek Powell (Psychology, Stanford U.), Tage Rai (Management, MIT), Dawn Chen (Google)

Publications

Books (Cognitive Science)

- Holyoak, K. J. (2019). *The spider's thread: Metaphor in mind, brain, and poetry*. Cambridge, MA: MIT Press.
- Holyoak, K. J., & Morrison, R. G. (Eds.) (2012). *The Oxford handbook of thinking and reasoning*. New York: Oxford University Press.
- Kokinov, B., Holyoak, K. J., & Gentner, D. (2009). *New frontiers in analogy research: Proceedings of the Second International Conference on Analogy*. Sofia, Bulgaria: New Bulgarian University Press.
- Holyoak, K. J., & Morrison, R. G. (Eds.) (2005). *The Cambridge handbook of thinking and reasoning*. Cambridge, UK: Cambridge University Press.
- Gentner, D., Holyoak, K. J., & Kokinov, B. N. (Eds.) (2001). *The analogical mind: Perspectives from cognitive science*. Cambridge, MA: MIT Press.
- Holyoak, K. J., Gentner, D., & Kokinov, B. N. (Eds.) (1998). *Advances in analogy research: Integration of theory and data from the cognitive, computational, and neural sciences*. Sofia, Bulgaria: New Bulgarian University Press.
- Shanks, D. R., Holyoak, K. J., & Medin, D. L. (Eds.) (1996). *The psychology of learning and motivation, Vol. 34: Causal learning*. San Diego: Academic Press.
- Grafman, J., Holyoak, K. J., & Boller, F. (Eds.) (1995). *Structure and functions of the human prefrontal cortex*. New York: New York Academy of Sciences.
- Holyoak, K. J., & Thagard, P. (1995). *Mental leaps: Analogy in creative thought*. Cambridge, MA: MIT Press. Paperback edition, 1996. Japanese translation, 1998.
- Holyoak, K. J., & Barnden, J. A. (Eds.) (1994). *Advances in connectionist and neural computation theory, Vol. 2: Analogical connections*. Norwood, N.J.: Ablex.

- Barnden, J. A., & Holyoak, K. J. (Eds.) (1994). *Advances in connectionist and neural computation theory, Vol. 3: Analogy, reminding, and metaphor*. Norwood, N.J.: Ablex.
- Holland, J. H., Holyoak, K. J., Nisbett, R. E., & Thagard, P. (1986). *Induction: Processes of inference, learning, and discovery*. Cambridge, MA: MIT Press. Paperback edition, 1989. Japanese translation, 1991. Portions of Ch. 4 reprinted in L. Davis (Ed.) (1987), *Genetic algorithms and simulated annealing* (pp. 116-128). London: Pitman. Portions of Ch. 9 reprinted in A. I. Goldman (Ed.) (1993), *Readings in philosophy and cognitive science* (pp. 23-41). Cambridge, MA: MIT Press. Chapter 1 reprinted in N. Lazaric & E. Lorenz (Eds.) (2003), *Critical studies in economic institutions: Knowledge, learning and routines* (pp. 25-56). Camberley, UK: Edward Elgar.
- Glass, A. L., & Holyoak, K. J. (1986). *Cognition*, 2nd edition. New York: Random House.
- Glass, A. L., Holyoak, K. J., & Santa, J. L. (1979). *Cognition*. Reading, MA: Addison-Wesley.

Books (Poetry)

- Holyoak, K. (2019). *Oracle Bones: Poems from the Time of Misrule*. Seattle, WA: Goldfish Press.
- Holyoak, K. (2015). *The Gospel According to Judas*. Loveland, OH: Dos Madres Press.
- Holyoak, K. (2012). *Foreigner: New English Poems in Chinese Old Style*. Loveland, OH: Dos Madres Press.
- Holyoak, K. (2010). *My Minotaur: Selected Poems 1998-2006*. Loveland, OH: Dos Madres Press.
- Holyoak, K. (translator) (2007). *Facing the Moon: Poems of Li Bai and Du Fu*. Durham, NH: Oyster River Press.

Individual Papers

- Morsanyi, K., Stamenković, D., & Holyoak, K. J. (in press). Analogical reasoning in autism: A systematic review and meta-analysis. In K. Morsanyi & R. Byrne (Eds.), *Reasoning and decision making in autism*. London: Routledge.
- Holyoak, K. J., & Powell, D. (in press). Moral judgment as reasoning by constraint satisfaction. *Behavioral and Brain Sciences*.
- Lu, H., Wu, Y. N., & Holyoak, K. J. (2019). Emergence of analogy from relation learning. *Proceedings of the National Academy of Sciences, USA, 116*, 4176-4181.
- Stamenković, D., Ichien, N., & Holyoak, K. J. (2019). Metaphor comprehension: An individual-differences approach. *Journal of Memory and Language, 105*, 108-118.
- Lee, J., & Holyoak, K. J. (2018). "But he's my brother": How family obligation impacts moral judgments. In C. Kalish, M. Rau, J. Zhu & T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (pp. 677-682). Austin, TX: Cognitive Science Society.
- Gray, M. E., & Holyoak, K. J. (2018). Individual differences in relational reasoning. In C. Kalish, M. Rau, J. Zhu & T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (pp. 1741-1746). Austin, TX: Cognitive Science Society.
- Peng, Y., Javangula, P. R., Lu, H., & Holyoak, K. J. (2018). Behavioral oscillations in verification of relational role bindings. In C. Kalish, M. Rau, J. Zhu & T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (2223-2228). Austin, TX: Cognitive Science Society.
- Stamenković, D., & Holyoak, K. J. (2018). Individual differences in both fluid and crystallized intelligence predict metaphor comprehension. In C. Kalish, M. Rau, J. Zhu & T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (pp. 2542-2547). Austin, TX: Cognitive Science Society.
- Holyoak, K. J., & Stamenković, D. (2018). Metaphor comprehension: A critical review of theories and evidence. *Psychological Bulletin, 144*, 641-671.

- Tyumeneva, Y. A., Larina, G., Alexandrova, E., DeWolf, M., Bassok, M., & Holyoak, K. J. (2018). Semantic alignment across whole-number arithmetic and rational numbers: Evidence from a Russian perspective. *Thinking & Reasoning*, *24*, 198-220.
- Gray, M. E., DeWolf, M., Bassok, M., & Holyoak, K. J. (2017). Dissociation between magnitude comparison and relation identification across different formats for rational numbers. *Thinking & Reasoning*, *24*, 179-197.
- DeWolf, M., Son, J. Y., Bassok, M., & Holyoak, K. J. (2017). Relational priming based on a multiplicative schema for whole numbers and fractions. *Cognitive Science*, *41*, 2053-2088.
- Powell, D., Yu, J., DeWolf, M., & Holyoak, K. J. (2017). The love of large numbers: A popularity bias in consumer choice. *Psychological Science*, *28*, 1432-1442.
- Kubricht, J. R., Lu, H., & Holyoak, K. J. (2017). Intuitive physics: Current research and controversies. *Trends in Cognitive Sciences*, *21*, 749-759.
- Plummer, P., DeWolf, M., Bassok, B., Gordon, P. C., & Holyoak, K. J. (2017). Reasoning strategies with rational numbers revealed by eye-tracking. *Attention, Perception, & Psychophysics*, *79*, 1426-1437.
- Kubricht, J. R., Lu, H., & Holyoak, K. J. (2017). Individual differences in spontaneous analogical transfer. *Memory & Cognition*, *45*, 576-588.
- Chen, D., Lu, H., & Holyoak, K. J. (2017). Generative inferences based on learned relations. *Cognitive Science*, *41*, 1062-1092.
- Holyoak, K. J., & Lee, H. S. (2017). Inferring causal relations by analogy. In M. R. Waldmann (Ed.), *Oxford handbook of causal reasoning* (pp. 459-473). New York: Oxford University Press.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2017). Numbers as mathematical models: Modeling relations and magnitudes with fractions and decimals. In D. C. Geary, D. B. Berch, R. J. Ochsendorf & K. M. Koepke (Eds.), *Mathematical cognition and learning, Vol. 3: Acquisition of complex arithmetic skills and higher-order mathematical concepts* (pp. 141-163). London: Academic Press.
- Holyoak, K. J., & Powell, D. (2016). Deontological coherence: A framework for commonsense moral reasoning. *Psychological Bulletin*, *142*, 1179-1203.
- DeWolf, M., Chiang, J. N., Bassok, M., Holyoak, K. J., & Monti, M. M. (2016). Neural representations of magnitude for natural and rational numbers. *NeuroImage*, *141*, 304-312.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2016). A set for relational reasoning: Facilitation of algebraic modeling by a fraction task. *Journal of Experimental Child Psychology*, *152*, 351-366.
- Powell, D., Merrick, M. A., Lu, H., & Holyoak, K. J. (2016). Causal competition based on generic priors. *Cognitive Psychology*, *86*, 62-86.
- Lee, H. S., DeWolf, M., Bassok, M., & Holyoak, K. J. (2016). Conceptual and procedural distinctions between fractions and decimals: A cross-national comparison. *Cognition*, *147*, 57-69.
- Guthormsen, A. M., Fisher, K. J., Bassok, M., Osterhout, L., DeWolf, M., & Holyoak, K. J. (2016). Conceptual integration of arithmetic operations with real-world knowledge: Evidence from event-related potentials. *Cognitive Science*, *40*, 723-757.
- Holyoak, K. J. (2016). Editorial. *Psychological Review*, *123*, 1.
- Horne, Z., Powell, D., Hummel, J. E., & Holyoak, K. J. (2015a). Countering antivaccination attitudes. *Proceedings of the National Academy of Sciences, USA*, *112*, 10321-10324.
- Horne, Z., Powell, D., Hummel, J. E., & Holyoak, K. J. (2015b). Reply to Betsch et al.: Highlighting risks of diseases shifts vaccine attitudes. *Proceedings of the National Academy of Sciences, USA*, *112*, E6727.
- Chen, D., Lu, H., & Holyoak, K. J. (2015). Learning and generalizing cross-category relations using hierarchical distributed representations. In R. Dale, C. Jennings, P.

- Maglio, D. Noelle, A. Warfaumont & J. Yoshimi (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Kubricht, J., Lu, H., & Holyoak, K. J. (2015). Animation facilitates source understanding and spontaneous analogical transfer. In R. Dale, C. Jennings, P. Maglio, D. Noelle, A. Warfaumont & J. Yoshimi (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2015). Modeling relational priming and multiplicative reasoning with rational numbers. In R. Dale, C. Jennings, P. Maglio, D. Noelle, A. Warfaumont & J. Yoshimi (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- DeWolf, M., Son, J. Y., Bassok, M., & Holyoak, K. J. (2015). Implicit understanding of arithmetic with rational numbers: The impact of expertise. In R. Dale, C. Jennings, P. Maglio, D. Noelle, A. Warfaumont & J. Yoshimi (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Lee, H. S., DeWolf, M., Bassok, M., & Holyoak, K. J. (2015). Semantic alignment of fractions and decimals with discrete versus continuous entities: A cross-national comparison. In R. Dale, C. Jennings, P. Maglio, D. Noelle, A. Warfaumont & J. Yoshimi (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2015). From rational numbers to algebra: Separable contributions of decimal magnitude and relational understanding of fractions. *Journal of Experimental Child Psychology*, *133*, 72-84.
- Powell, D., Horne, Z., Pinillos, Á., & Holyoak, K. J. (2015). A Bayesian framework for knowledge attribution: Evidence from semantic integration. *Cognition*, *139*, 92-104.
- Rapp, M., Bassok, M., DeWolf, M., & Holyoak, K. J. (2015). Modeling discrete and continuous entities with fractions and decimals. *Journal of Experimental Psychology: Applied*, *21*, 47-56.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2015). Conceptual structure and the procedural affordances of rational numbers: Relational reasoning with fractions and decimals. *Journal of Experimental Psychology: General*, *144*, 127-150.
- Vendetti, M., Wu, A., Rowshanshad, E., Knowlton, B.J., & Holyoak, K. J. (2014). When reasoning modifies memory: Schematic assimilation triggered by analogical mapping. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *40*, 1172-1180.
- Rai, T. S., & Holyoak, K. J. (2014). Rational hypocrisy: A Bayesian analysis based on informal argumentation and slippery slopes. *Cognitive Science*, *38*, 1456-1467.
- DeWolf, M., Rapp, M., Bassok, M., & Holyoak, K. J. (2014). Semantic alignment of fractions and decimals with discrete versus continuous entities: A textbook analysis. In B. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2133-2138). Austin, TX: Cognitive Science Society.
- DeWolf, M., & Holyoak, K. J. (2014). Reciprocal and multiplicative relational reasoning with rational numbers. In B. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2139-2144). Austin, TX: Cognitive Science Society.
- Powell, D., Merrick, M. A., Lu, H., & Holyoak, K.J. (2014). Generic priors yield competition between independently-occurring preventive causes. In B. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2793-2798). Austin, TX: Cognitive Science Society.

- Vendetti, M., Wu, A., & Holyoak, K. J. (2014). Far out thinking: Generating solutions to distant analogies promotes relational thinking. *Psychological Science*, *25*, 928-933.
- Chen, D., Lu, H., & Holyoak, K. J. (2014). The discovery and comparison of symbolic magnitudes. *Cognitive Psychology*, *71*, 27-54.
- DeWolf, M., Grounds, M. A., Bassok, M., & Holyoak, K. J. (2014). Magnitude comparison with different types of rational numbers. *Journal of Experimental Psychology: Human Perception and Performance*, *40*, 71-82.
- Rai, T. S., & Holyoak, K. J. (2013). Exposure to moral relativism compromises moral behavior. *Journal of Experimental Social Psychology*, *49*, 995-1001.
- Holyoak, K. J., & Richland, L. E. (2014). Using analogies as a basis for teaching cognitive readiness. In H. F. O'Neil, R. S. Perez, & E. L. Baker (Eds.), *Teaching and measuring cognitive readiness* (pp. 223-238). New York: Springer.
- Holyoak, K. J. (2013). Thinking, broad and deep (review of *Surfaces and Essences* by D. Hofstadter & E. Sander). *Science*, *340*, 550-551.
- Chen, D., Lu, H., & Holyoak, K. J. (2013). Generative inferences based on a discriminative Bayesian model of relation learning. In M. Knauf, M. Pauven, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 2028-2033). Austin, TX: Cognitive Science Society.
- DeWolf, M., Bassok, M., & Holyoak, K. J. (2013). Analogical reasoning with rational numbers: Semantic alignment based on discrete versus continuous quantities. In M. Knauf, M. Pauven, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 388-393). Austin, TX: Cognitive Science Society.
- Powell, D., Merrick, M. A., Lu, H., & Holyoak, K. J. (2013). Generic priors yield competition between independently-occurring causes. In M. Knauf, M. Pauven, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 1157-1162). Austin, TX: Cognitive Science Society.
- Powell, D., Horne, Z., Pinillos, Á., & Holyoak (2013). Justified true belief triggers false recall of "knowing". In M. Knauf, M. Pauven, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 1151-1156). Austin, TX: Cognitive Science Society.
- Vendetti, M., Castel, A. D., & Holyoak, K. J. (2013). The floor effect: Impoverished memory for elevator buttons. *Attention, Perception, & Psychophysics*, *75*, 636-643.
- Vendetti, M., Knowlton, B. J., & Holyoak, K. J. (2012). The impact of semantic distance and induced stress on analogical reasoning. *Cognitive, Affective, and Behavioral Neuroscience*, *12*, 804-812.
- Castel, A. D., Vendetti, M., & Holyoak, K. J. (2012). Fire drill: Inattention blindness and amnesia for the location of fire extinguishers. *Attention, Perception, & Psychophysics*, *74*, 1391-1396.
- Richland, L. E., Stigler, J. W., & Holyoak, K. J. (2012). Teaching the meaningful structure of mathematics. *Educational Psychologist*, *47*, 189-203.
- Lu, H., Chen, D., & Holyoak, K. J. (2012). Bayesian analogy with relational transformations. *Psychological Review*, *119*, 617-648.
- Knowlton, B. J., Morrison, R. G., Hummel, J. E., & Holyoak, K. J. (2012). A neurocomputational system for relational reasoning. *Trends in Cognitive Sciences*, *16*, 373-381.
- Penn, D. C., Holyoak, K. J., & Povinelli, D. J. (2012). So, are we the massively lucky species? *Behavioral and Brain Sciences*, *35*, 236-237.
- Omata, T., & Holyoak, K. J. (2012). The role of comparison processes in the induction of schemas for design styles. In N. Miyake, D. Peebles & R. P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society* (pp. 2144-2149). Austin, TX: Cognitive Science Society.
- Jurgens, D. A., Mohammad, S. M., Turney, P. D., & Holyoak, K. J. (2012). SemEval-2012 Task 2: Measuring degrees of relational similarity. In *Proceedings of the First Joint Conference on Lexical and Computational Semantics (*SEM)* (pp. 356-364).

- Montreal, Canada: Association for Computational Linguistics.
- Bassok, M., Dunbar, K. N., & Holyoak, K. J. (2012). Introduction to the special section on the neural substrate of analogical reasoning and metaphor comprehension. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *38*, 261-263.
- Holyoak, K. J., & Morrison, R. G. (2012). Thinking and reasoning: A reader's guide. In K. J. Holyoak & R. G. Morrison (Eds.), *The Oxford handbook of thinking and reasoning* (pp. 1-7). New York: Oxford University Press.
- Holyoak, K. J. (2012). Analogy and relational reasoning. In K. J. Holyoak & R. G. Morrison (Eds.), *The Oxford handbook of thinking and reasoning* (pp. 234-259). New York: Oxford University Press.
- Holyoak, K. J. (2012). Discovering weight in baby steps. In D. J. Povinelli (Ed.), *World without weight* (pp. 321-322). Oxford, UK: Oxford University Press.
- Holyoak, K. J., & Lu, H. (2011). What the Bayesian framework has contributed to understanding cognition: Causal learning as a case study. *Behavioral and Brain Sciences*, *34*, 2-3-204.
- Rai, T. S., & Holyoak, K. J. (2011). The rational hypocrite: Informal argumentation and moral hypocrisy. In L. Carlson, C. Hólscher & T. F. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 2475-2479). Austin, TX: Cognitive Science Society.
- Holyoak, K. J., & Cheng, P. W. (2011). Causal learning and inference as a rational process: The new synthesis. *Annual Review of Psychology*, *62*, 135-163.
- Holyoak, K. J., Lee, H. S., & Lu, H. (2010). Analogical and category-based inference: A theoretical integration with Bayesian causal models. *Journal of Experimental Psychology: General*, *139*, 702-727.
- Chen, D., Holyoak, K. J., & Lu, H. (2010). Learning and generalization of abstract semantic relations: Preliminary investigations of Bayesian approaches. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 871-876). Austin, TX: Cognitive Science Society.
- Lee, H. S., & Holyoak, K. J. (2010). Causal models interact with structure mapping to guide analogical inference. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 1094-1099). Austin, TX: Cognitive Science Society.
- Chen, D., & Holyoak, K. J. (2010). Enhancing acquisition of intuition versus planning in problem solving. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 1875-1880). Austin, TX: Cognitive Science Society.
- Morsanyi, K., & Holyoak, K. J. (2010). Analogical reasoning ability in autistic and typically-developing children. *Developmental Science*, *13*, 578-587.
- Holyoak, K. J. (2010). Analogy. In P. C. Hogan (Ed.), *Cambridge encyclopedia of the language sciences* (pp. 97-98). Cambridge, UK: Cambridge University Press.
- Rai, T. S., & Holyoak, K. J. (2010). Moral principles or consumer preferences? Alternative framings of the trolley problem. *Cognitive Science*, *34*, 311-321.
- Cho, S., Moody, T. D., Fernandino, L., Mumford, J. A., Poldrack, R. A., Cannon, T. D., Knowlton, B. J., & Holyoak, K. J. (2010). Common and dissociable prefrontal loci associated with component mechanisms of analogical reasoning. *Cerebral Cortex*, *20*, 524-533.
- Penn, D. C., Holyoak, K. J., & Povinelli, D. J. (2009). Universal grammar and mental continuity: Two modern myths. *Behavioral and Brain Sciences*, *32*, 462-464.
- Penn, D. C., Cheng, P. W., Holyoak, K. J., Hummel, J. E., & Povinelli, D. J. (2009). There is more to thinking than propositions. *Behavioral and Brain Sciences*, *32*, 221-223.
- Povinelli, D. J., Penn, D. C., & Holyoak, K. J. (2009). An open letter to comparative psychologists. *Psychological Science Agenda*, *23*, 13-14.

- Knowlton, B. J., & Holyoak, K. J. (2009). Prefrontal substrate of human relational reasoning. In M. S. Gazzaniga (Ed.), *The cognitive neurosciences (4th edition)* (pp. 1005-1017). Cambridge, MA: MIT Press.
- Lee, H. S., Holyoak, K. J., & Lu, H. (2009). Integrating analogical inference with Bayesian causal models. In B. Kokinov, K. J. Holyoak & D. Gentner (Eds.), *New frontiers in analogy research: Proceedings of the Second International Conference on Analogy* (pp. 300-309). Sofia, Bulgaria: New Bulgarian University Press.
- Bendig, B. W., & Holyoak, K. J. (2009). Relational priming of analogical reasoning. In B. Kokinov, K. J. Holyoak & D. Gentner (Eds.), *New frontiers in analogy research: Proceedings of the Second International Conference on Analogy* (pp. 30-36). Sofia, Bulgaria: New Bulgarian University Press.
- Lu, H., Yuille, A. L., Liljeholm, M., Cheng, P. W., & Holyoak, K. J. (2008). Bayesian generic priors for causal learning. *Psychological Review*, *115*, 955-982.
- Lee, H. S., & Holyoak, K. J. (2008). The role of causal models in analogical inference. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *34*, 1111-1122.
- Holyoak, K. J. (2008). Induction as model selection. *Proceedings of the National Academy of Sciences USA*, *105*, 10637-10638.
- Holyoak, K. J., & Hummel, J. E. (2008). No way to start a space program: Associationism as a launch pad for analogical reasoning. *Behavioral and Brain Sciences*, *31*, 388-389.
- Lee, H. S., & Holyoak, K. J. (2008). Absence makes the thought grow stronger: Reducing structural overlap can increase inductive strength. In B. C. Love, K. McRae & V. M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 297-302). Austin, TX: Cognitive Science Society.
- Krawczyk, D. C., Morrison, R. G., Viskontas, I., Holyoak, K. J., Chow, T. W., Mendez, M. F., Miller, B. L., & Knowlton, B. J. (2008). Distraction during relational reasoning: The role of prefrontal cortex in interference control. *Neuropsychologia*, *46*, 2020-2032.
- Penn, D. C., Holyoak, K. J., & Povinelli, D. J. (2008). Darwin's mistake: Explaining the discontinuity between human and nonhuman minds. *Behavioral and Brain Sciences*, *31*, 109-130; discussion 130-178.
- Simon, D., Krawczyk, D. C., Bleicher, A., & Holyoak, K. J. (2008). The transience of constructed preferences. *Journal of Behavioral Decision Making*, *21*, 1-14.
- Cho, S., Holyoak, K. J., & Cannon, T. (2007). Analogical reasoning in working memory: Resources shared among relational integration, interference resolution, and maintenance. *Memory & Cognition*, *35*, 1445-1455.
- Richland, L. E., Zur, O., & Holyoak, K. J. (2007). Cognitive supports for analogy in the mathematics classroom. *Science*, *316*, 1128-1129.
- Holyoak, K. J. (2007). Relations in semantic memory: Still puzzling after all these years. In M. A. Gluck, J. R. Anderson & S. M. Kosslyn (Eds.), *Memory and mind: A festschrift for Gordon H. Bower* (pp. 141-158). New York: Psychology Press.
- Lu, H., Yuille, A. L., Liljeholm, M., Cheng, P. W., & Holyoak, K. J. (2007). Bayesian models of judgments of causal strength: A comparison. In D. S. McNamara & G. Trafton (Eds.), *Proceedings of the Twenty-ninth Annual Conference of the Cognitive Science Society* (pp. 1241-1246). Austin, TX: Cognitive Science Society.
- Lee, H. S., & Holyoak, K. J. (2007). Causal models guide analogical inference. In D. S. McNamara & G. Trafton (Eds.), *Proceedings of the Twenty-ninth Annual Conference of the Cognitive Science Society* (pp. 1205-1210). Austin, TX: Cognitive Science Society.
- Thompson, G. A., Morrison, R. G., Holyoak, K. J., & Clark, T. K. (2006). Evaluation of an online analogical patient simulation program. *Proceedings of the Nineteenth IEEE International Symposium on Computer-Based Medical Systems* (pp. 623-628). Los Alamitos, CA: IEEE Computer Society.

- Richland, L. E., Morrison, R. G., & Holyoak, K. J. (2006). Children's development of analogical reasoning: Insights from scene analogy problems. *Journal of Experimental Child Psychology*, *94*, 249-271.
- Doumas, L. A. A., Holyoak, K. J., & Hummel, J. E. (2006). The problem with using associations to carry binding information. *Behavioral and Brain Sciences*, *29*, 38-39.
- Viskontas, I. V., & Holyoak, K. J. (2006). Mechanisms of fluid cognition: Relational integration and inhibition. *Behavioral and Brain Sciences*, *29*, 141.
- Lu, H., Yuille, A. L., Liljeholm, M., Cheng, P. W., & Holyoak, K. J. (2006). Modeling causal learning using Bayesian generic priors on generative and preventive powers. In R. Sun & N. Miyake (Eds.), *Proceedings of the Twenty-eighth Annual Conference of the Cognitive Science Society* (pp. 519-524). Mahwah, NJ: Erlbaum.
- Kittur, A., Hummel, J. E., & Holyoak, K. J. (2006). Ideals aren't always typical: Dissociating goodness-of-exemplar from typicality judgments. In R. Sun & N. Miyake (Eds.), *Proceedings of the Twenty-eighth Annual Conference of the Cognitive Science Society* (pp. 429-434). Mahwah, NJ: Erlbaum.
- Kittur, A., Holyoak, K. J., & Hummel, J. E. (2006). Using ideal observers in higher-order human category learning. In R. Sun & N. Miyake (Eds.), *Proceedings of the Twenty-eighth Annual Conference of the Cognitive Science Society* (pp. 435-440). Mahwah, NJ: Erlbaum.
- Lu, H., Morrison, R. G., Hummel, J. E., & Holyoak, K. J. (2006). Role of gamma-band synchronization in priming of form discrimination for multiobject displays. *Journal of Experimental Psychology: Human Perception and Performance*, *32*, 610-617.
- Viskontas, I. V., Holyoak, K. J., & Knowlton, B. J. (2005). Relational integration in older adults. *Thinking & Reasoning*, *11*, 390-410.
- Fenker, D. B., Waldmann, M. R., & Holyoak, K. J. (2005). Accessing causal relations in semantic memory. *Memory & Cognition*, *33*, 1036-1046.
- Satpute, A. B., Fenker, D. B., Waldmann, M. R., Tabibnia, G., Holyoak, K. J., & Lieberman, M. D. (2005). An fMRI study of causal judgments. *European Journal of Neuroscience*, *22*, 1233-1238.
- Hummel, J. E., & Holyoak, K. J. (2005). Relational reasoning in a neurally-plausible cognitive architecture: An overview of the LISA project. *Current Directions in Cognitive Science*, *14*, 153-157.
- Krawczyk, D. C., Holyoak, K. J., & Hummel, J. E. (2005). The one-to-one constraint in analogical mapping and inference. *Cognitive Science*, *29*, 29-38.
- Holyoak, K. J., & Morrison, R. G. (2005). Thinking and reasoning: A reader's guide. In K. J. Holyoak & R. G. Morrison (Eds.), *The Cambridge handbook of thinking and reasoning* (pp. 1-9). Cambridge, UK: Cambridge University Press.
- Holyoak, K. J. (2005). Analogy. In K. J. Holyoak & R. G. Morrison (Eds.), *The Cambridge handbook of thinking and reasoning* (pp. 117-142). Cambridge, UK: Cambridge University Press.
- Viskontas, I. V., Morrison, R. G., Holyoak, K. J., Hummel, J. E., & Knowlton, B. J. (2004). Relational integration, inhibition and analogical reasoning in older adults. *Psychology and Aging*, *19*, 581-591.
- Hummel, J. E., Holyoak, K. J., Green, C., Doumas, L. A. A., Devnich, D., Kittur, A., & Kalar, D. J. (2004). A solution to the binding problem for compositional connectionism. In S. D. Levy & R. Gayler (Eds.), *Compositional connectionism in cognitive science: Papers from the AAAI Fall Symposium [Technical Report FS-04-03]* (pp. 31-34). Menlo Park, CA: AAAI Press.
- Richland, L. E., Morrison, R. G., & Holyoak, K. J. (2004). Working memory and inhibition as constraints on children's development of analogical reasoning. In K. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of the Twenty-sixth Annual Conference of the Cognitive Science Society* (pp. 1149-1154). Mahwah, NJ: Erlbaum.
- Kittur, A., Hummel, J. E., & Holyoak, K. J. (2004). Feature- vs. relation-defined categories: Probab(alistic)ly not the same. In K. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of*

- the Twenty-sixth Annual Conference of the Cognitive Science Society* (pp. 696-701). Mahwah, NJ: Erlbaum.
- Krawczyk, D. C., Holyoak, K. J., & Hummel, J. E. (2004). Structural constraints and object similarity in analogical mapping and inference. *Thinking & Reasoning, 10*, 85-104.
- Richland, L. E., Holyoak, K. J., & Stigler, J. W. (2004). The role of analogy in teaching middle-school mathematics. *Cognition and Instruction, 22*, 37-60.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Boone, K. B., Back-Madruga, C., McPherson, S., Masterman, D., Chow, T., Cummings, J. L., & Miller, B. L. (2004). Relational integration and executive function in Alzheimer's disease. *Neuropsychology, 18*, 296-305.
- Morrison, R. G., Krawczyk, D. C., Holyoak, K. J., Hummel, J. E., Chow, T. W., Miller, B. L., & Knowlton, B. J. (2004). A neurocomputational model of analogical reasoning and its breakdown in Frontotemporal Lobar Degeneration. *Journal of Cognitive Neuroscience, 16*, 260-271.
- Kroger, J. K., Holyoak, K. J., & Hummel, J. E. (2004). Varieties of sameness: The impact of relational complexity on perceptual comparisons. *Cognitive Science, 28*, 335-358.
- Simon, D., Krawczyk, D. C., & Holyoak, K. J. (2004). Construction of preferences by constraint satisfaction. *Psychological Science, 15*, 331-336. Reprinted in S. Lichtenstein & P. Slovic (Eds.) (2006), *The construction of preferences* (pp. 235-245). Cambridge, UK: Cambridge University Press.
- Fales, C. L., Knowlton, B. J., Holyoak, K. J., Geschwind, D. H., Swerdloff, R. S., & Gonzalo, I. G. (2003). Working memory and relational reasoning in Klinefelter syndrome. *Journal of the International Neuropsychology Society, 9*, 839-847.
- Morrison, R. G., & Holyoak, K. J. (2003). Problem solving. In M. Aminoff & R. B. Daroff (Eds.), *Encyclopedia of the neurological sciences*, Vol. 4 (pp. 60-63). San Diego: Academic Press.
- Hummel, J. E., & Holyoak, K. J. (2003). A symbolic-connectionist theory of relational inference and generalization. *Psychological Review, 110*, 220-264.
- Hummel, J. E., & Holyoak, K. J. (2003). Relational reasoning in a neurally-plausible cognitive architecture: An overview of the LISA project. *Cognitive Studies: Bulletin of the Japanese Cognitive Science Society, 10*, 58-75. Translated into Japanese (2005), in T. Tsuzuki (Ed.), *Connectionist modeling of higher-level cognitive functions: Neural networks and symbolic connectionism* (pp. 191-217). Tokyo: Kyoritsu Suppan.
- Simon, D., & Holyoak, K. J. (2002). Structural dynamics of cognition: From consistency theories to constraint satisfaction. *Personality and Social Psychology Review, 6*, 283-294.
- Kubose, T. T., Holyoak, K. J., & Hummel, J. E. (2002). The role of textual coherence in incremental analogical mapping. *Journal of Memory and Language, 47*, 407-435.
- Engle, L. K., Holyoak, K. J., & Stigler, J. W. (2002). The role of analogy in teaching middle-school mathematics. In W. D. Gray & C. D. Schunn, (Eds.), *Proceedings of the Twenty-Fourth Annual Conference of the Cognitive Science Society* (pp. 286-291). Mahwah, NJ: Erlbaum.
- Guo, F. Y., & Holyoak, K. J. (2002). Understanding similarity in choice behavior: A connectionist model. In W. D. Gray & C. D. Schunn (Eds.), *Proceedings of the Twenty-Fourth Annual Conference of the Cognitive Science Society* (pp. 393-398). Mahwah, NJ: Erlbaum.
- Kroger, J. K., Saab, F. W., Fales, C. L., Bookheimer, S. Y., Cohen, M. S., & Holyoak, K. J. (2002). Recruitment of anterior dorsolateral prefrontal cortex in human reasoning: A parametric study of relational complexity. *Cerebral Cortex, 12*, 477-485.
- Hummel, J. E., & Holyoak, K. J. (2002). Analogy and creativity: Schema induction in a structure-sensitive connectionist model. In T. Dartnall (Ed.), *Creativity, cognition and knowledge: An interaction* (pp. 181-210). Westport, CT: Praeger.
- Holyoak, K. J. (2001). Analogical thinking in learning and creativity. *Annual Report of Educational Psychology in Japan, 40*, 32-36.

- Christoff, K., Prabhakaran, V., Dorfman, J., Zhao, Z., Kroger, J. K., Holyoak, K. J., & Gabrieli, J. D. E. (2001). Rostrolateral prefrontal cortex involvement in relational integration during reasoning. *NeuroImage*, *14*, 1136-1149.
- Simon, D., Pham, L. B., Le, Q. A., & Holyoak, K. J. (2001). The emergence of coherence over the course of decision making. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *27*, 1250-1260.
- Morrison, R. G., Holyoak, K. J., & Truong, B. (2001). Working memory modularity in analogical reasoning. In J. D. Moore & K. Stenning (Eds.), *Proceedings of the Twenty-third Annual Conference of the Cognitive Science Society* (pp. 663-668). Mahwah, NJ: Erlbaum.
- Choplin, J. M., Cheng, P. W., & Holyoak, K. J. (2001). Causal information as a constraint on similarity. In J. D. Moore & K. Stenning (Eds.), *Proceedings of the Twenty-third Annual Conference of the Cognitive Science Society* (pp. 212-215). Mahwah, NJ: Erlbaum.
- Spellman, B. A., Holyoak, K. J., & Morrison, R. G. (2001). Analogical priming via semantic relations. *Memory & Cognition*, *29*, 383-393.
- Pedone, R., Hummel, J. E., & Holyoak, K. J. (2001). The use of diagrams in analogical problem solving. *Memory & Cognition*, *29*, 214-221.
- Hummel, J. E., & Holyoak, K. J. (2001). A process model of human transitive inference. In M. L. Gattis (Ed.), *Spatial schemas and abstract thought* (pp. 279-305). Cambridge, MA: MIT Press.
- Holyoak, K. J., & Hummel, J. E. (2001). Toward an understanding of analogy within a biological symbol system. In D. Gentner, K. J. Holyoak, & B. N. Kokinov (Eds.), *The analogical mind: Perspectives from cognitive science* (pp. 161-195). Cambridge, MA: MIT Press.
- Holyoak, K. J., Gentner, D., & Kokinov, B. N. (2001). Introduction: The place of analogy in cognition. In D. Gentner, K. J. Holyoak, & B. N. Kokinov (Eds.), *The analogical mind: Perspectives from cognitive science* (pp. 1-19). Cambridge, MA: MIT Press.
- Waltz, J. A., Lau, A., Grewal, S. K., & Holyoak, K. J. (2000). The role of working memory in analogical mapping. *Memory & Cognition*, *28*, 1205-1212.
- Tohill, J. M., & Holyoak, K. J. (2000). The impact of anxiety on analogical reasoning. *Thinking & Reasoning*, *6*, 27-40.
- Kimball, D. R., & Holyoak, K. J. (2000). Transfer and expertise. In E. Tulving & F. I. M. Craik (Eds.) *The Oxford handbook of memory* (pp. 109-122). New York: Oxford University Press.
- Holyoak, K. J., & Hummel, J. E. (2000). The proper treatment of symbols in a connectionist architecture. In E. Deitrich & A. Markman (Eds.), *Cognitive dynamics: Conceptual change in humans and machines* (pp. 229-263). Mahwah, NJ: Erlbaum.
- Holyoak, K. J., Waltz, J. A., Tohill, J. M., Lau, A., & Grewal, S. K. (1999). Restricting working-memory capacity impairs relational mapping. In M. Hahn & S. C. Stoness (Eds.), *Proceedings of the Twenty-first Annual Conference of the Cognitive Science Society* (pp. 224-228). Mahwah, NJ: Erlbaum.
- Holyoak, K. J. (1999). Psychology. In R. A. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (xxxvii-xlix). Cambridge, MA: MIT Press.
- Holyoak, K. J., & Hummel, J. E. (1999). Relational reasoning in a biological symbol system. In *Festschrift in honor of John H. Holland* (pp. 33-37). Ann Arbor, MI: Center for the Study of Complex Systems, University of Michigan.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Boone, K. B., Mishkin, F. S., de Menezes Santos, M., Thomas, C. R., & Miller, B. L. (1999). A system for relational reasoning in human prefrontal cortex. *Psychological Science*, *10*, 119-125.
- Holyoak, K. J., & Simon, D. (1999). Bidirectional reasoning in decision making by constraint satisfaction. *Journal of Experimental Psychology: General*, *128*, 3-31.
- Holyoak, K. J., & Hummel, J. E. (1998). Analogy in a physical symbol system. In K. J. Holyoak, D. Gentner & B. Kokinov (Eds.), *Advances in analogy research: Integration of theory and data from the cognitive, computational, and neural sciences* (pp. 9-18). Sofia, Bulgaria: New Bulgarian University.

- Hummel, J. E., & Holyoak, K. J. (1997). Distributed representations of structure: A theory of analogical access and mapping. *Psychological Review*, *104*, 427-466. Reprinted in T. A. Polk & C. M. Siefert (Eds.) (2002), *Cognitive modeling*. Cambridge, MA: MIT Press.
- Kroger, J. K., & Holyoak, J. J. (1997). What it means to be "the same": The impact of relational complexity on processing efficiency. In M. G. Shafto & P. Langley (Eds.), *Proceedings of the Nineteenth Conference of the Cognitive Science Society* (pp. 406-411). Mahwah, NJ: Erlbaum.
- Waltz, J. A., Knowlton, B. J., & Holyoak, K. J. (1998). Relational complexity, the central executive, and prefrontal cortex. *Behavioral and Brain Sciences*, *21*, 846-847.
- Liu, J. H., Pham, L. B., & Holyoak, K. J. (1997). Adjusting social inferences in familiar and unfamiliar domains: The generality of response to situational pragmatics. *International Journal of Psychology*, *32*, 73-91.
- Gentner, D., & Holyoak, K. J. (1997). Reasoning and learning by analogy: Introduction. *American Psychologist*, *52*, 32-34.
- Holyoak, K. J., & Thagard, P. (1997). The analogical mind. *American Psychologist*, *52*, 35-44.
- Waldmann, M. R., & Holyoak, K. J. (1997). Determining whether causal order affects cue selection in human contingency learning: Comments on Shanks and Lopez (1995). *Memory & Cognition*, *25*, 125-134.
- Spellman, B. A., & Holyoak, K. J. (1996). Pragmatics in analogical mapping. *Cognitive Psychology*, *31*, 307-346.
- Wharton, C. M., Holyoak, K. J., & Lange, T. E. (1996). Remote analogical reminding. *Memory & Cognition*, *24*, 629-643.
- Cheng, P. W., Park, J.-Y., Yarlas, A. S., & Holyoak, K. J. (1996). A causal-power theory of focal sets. In D. R. Shanks, K. J. Holyoak, & D. L. Medin (Eds.), *The psychology of learning and motivation, Vol. 34: Causal learning* (pp. 313-355). San Diego: Academic Press.
- Hummel, J. E., & Holyoak, K. J. (1996). LISA: A computational model of analogical inference and schema induction. In G. W. Cottrell (Ed.), *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society* (pp. 352-357). Hillsdale, NJ: Erlbaum.
- Vollmeyer, R., Burns, B. D., & Holyoak, K. J. (1996). The impact of goal specificity on strategy use and the acquisition of category structure. *Cognitive Science*, *20*, 75-100.
- Gattis, M., & Holyoak, K. J. (1996). Mapping conceptual to spatial relations in visual reasoning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *22*, 231-239.
- Holyoak, K. J., & Cheng, P. W. (1995). Pragmatic reasoning with a point of view. *Thinking & Reasoning*, *1*, 289-313.
- Holyoak, K. J., & Cheng, P. W. (1995). Pragmatic reasoning from multiple points of view: A response. *Thinking & Reasoning*, *1*, 373-388.
- Holyoak, K. J., & Kroger, J. K. (1995). Forms of reasoning: Insight into prefrontal functions? In J. Grafman, K. J. Holyoak & F. Boller (Eds.), *Structure and functions of the human prefrontal cortex* (pp. 253-263). New York: New York Academy of Sciences.
- Holyoak, K. J., & Cheng, P. W. (1995). Pragmatic reasoning about human voluntary action: Evidence from Wason's selection task. In S. E. Newstead & J. St. B. T. Evans (Eds.), *Perspectives on thinking and reasoning* (pp. 67-89). Hove, East Sussex, UK: Erlbaum.
- Holyoak, K. J. (1995). Problem solving. In D. Osherson & E. E. Smith (Eds.), *Invitation to cognitive science, Vol. 3: Thinking* (2nd. ed) (pp. 267-296). Cambridge, MA: MIT Press (1st ed., 1990).
- Cheng, P. W., & Holyoak, K. J. (1995). Complex adaptive systems as intuitive statisticians: Causality, contingency, and prediction. In H. L. Roitblat & J.-A. Meyer (Eds.), *Comparative approaches to cognitive sciences* (pp. 271-302). Cambridge, MA: MIT Press.
- Yarlas, A. S., Cheng, P. C., & Holyoak, K. J. (1995). Alternative approaches to causal induction: The probabilistic contrast versus the Rescorla-Wagner model. In J. D. Moore & J. F. Lehman (Eds.), *Proceedings of the Seventeenth Annual Conference of the Cognitive Science Society* (pp. 431-436). Hillsdale, NJ: Erlbaum.

- Waldmann, M. R., Holyoak, K. J., & Fratianne, A. (1995). Causal models and the acquisition of category structure. *Journal of Experimental Psychology: General*, *124*, 181-206.
- Robin, N., & Holyoak, K. J. (1995). Relational complexity and the functions of prefrontal cortex. In M. S. Gazzaniga (Ed.), *The cognitive neurosciences* (pp. 987-997). Cambridge, MA: MIT Press.
- Holyoak, K. J., & Gattis, M. (1995). Review of *Children's understanding: The development of mental models* by G. S. Halford. *Merrill-Palmer Quarterly*, *41*, 402-407.
- Hummel, J. E., Melz, E. R., Thompson, J., & Holyoak, K. J. (1994). Mapping hierarchical structures with synchrony for binding: Preliminary investigations. In A. Ram & K. Eiselt (Eds.), *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society* (pp. 433-438). Hillsdale, NJ: Erlbaum.
- Burns, B. D., & Holyoak, K. J. (1994). Competing models of analogy: ACME versus Copycat. In A. Ram & K. Eiselt (Eds.), *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society* (pp. 100-105). Hillsdale, NJ: Erlbaum.
- Vollmeyer, R., Holyoak, K. J., & Burns, B. D. (1994). Goal specificity in hypothesis testing and problem solving. In A. Ram & K. Eiselt (Eds.), *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society* (pp. 916-921). Hillsdale, NJ: Erlbaum.
- Gattis, M., & Holyoak, K. J. (1994). How graphs mediate analog and symbolic representation. In A. Ram & K. Eiselt (Eds.), *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society* (pp. 346-350). Hillsdale, NJ: Erlbaum.
- Wharton, C. M., Holyoak, K. J., Downing, P. E., Lange, T. E., Wickens, T. D., & Melz, E. R. (1994). Below the surface: Analogical similarity and retrieval competition in reminding. *Cognitive Psychology*, *26*, 64-101.
- Holyoak, K. J., & Barnden, J. A. (1994). Introduction. In K. J. Holyoak & J. A. Barnden (Eds.), *Advances in connectionist and neural computation theory, Vol. 2: Analogical connections* (pp. 1-27). Norwood, N.J.: Ablex. (Also appears in *Vol. 3: Analogy, metaphor, and reminding*.)
- Hummel, J. E., Burns, B., & Holyoak, K. J. (1994). Analogical mapping by dynamic binding: Preliminary investigations. In K. J. Holyoak & J. A. Barnden (Eds.), *Advances in connectionist and neural computation theory, Vol. 2: Analogical connections* (pp. 416-445). Norwood, N.J.: Ablex.
- Holyoak, K. J., Novick, L. R., & Melz, E. R. (1994). Component processes in analogical transfer: Mapping, pattern completion, and adaptation. In K. J. Holyoak & J. A. Barnden (Eds.), *Advances in connectionist and neural computation theory, Vol. 2: Analogical connections* (pp. 113-180). Norwood, N.J.: Ablex.
- Holyoak, K. J., & Gattis, M. (1994). Implicit assumptions about implicit learning. *Behavioral and Brain Sciences*, *17*, 406-407.
- Spellman, B. A., Ullman, J. B., & Holyoak, K. J. (1993). A coherence model of cognitive consistency. *Journal of Social Issues*, *4*, 147-165.
- Melz, E. R., Cheng, P. W., Holyoak, K. J., & Waldmann, M. R. (1993). Cue competition in human categorization: Contingency or the Rescorla-Wagner learning rule? Comments on Shanks (1991). *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*, 1398-1410.
- Spellman, B. A., & Holyoak, K. J. (1993). An inhibitory mechanism for goal-directed analogical mapping. In *Proceedings of the Fifteenth Annual Conference of the Cognitive Science Society* (pp. 947-952). Hillsdale, NJ: Erlbaum.
- Kroger, J. K., Cheng, P. W., & Holyoak, K. J. (1993). Evoking the permission schema: The impact of explicit negation and a violation-checking context. *Quarterly Journal of Experimental Psychology*, *46A*, 615-635.
- Holyoak, K. J., & Spellman, B. A. (1993). Thinking. *Annual Review of Psychology*, *44*, 265-315.
- Burns, B. D., Hummel, J. E., & Holyoak, K. J. (1993). Establishing analogical mappings by synchronizing oscillators. In *Proceedings of the Fourth Australian Conference on Neural Networks* (pp. 49-52). Sydney: Sydney University Electrical Engineering Department.

- Bassok, M., & Holyoak, K. J. (1993). Pragmatic knowledge and conceptual structure: Determinants of transfer between quantitative domains. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition and instruction* (pp. 68-98). Norwood, NJ: Ablex.
- Hummel, J. E., & Holyoak, K. J. (1993). Distributing structure over time. *Behavioral and Brain Sciences*, *16*, 464.
- Spellman, B. A., & Holyoak, K. J. (1992). If Saddam is Hitler then who is George Bush?: Analogical mapping between systems of social roles. *Journal of Personality and Social Psychology*, *62*, 913-933.
- Hummel, J. E., & Holyoak, K. J. (1992). Indirect analogical mapping. In *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society* (pp. 516-521). Hillsdale, NJ: Erlbaum.
- Wharton, C. M., Holyoak, K. J., Downing, P. E., Lange, T. E., & Wickens, T. D. (1992). The story with reminding: Memory retrieval is influenced by analogical similarity. In *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society* (pp. 588-593). Hillsdale, NJ: Erlbaum.
- Waldmann, M. R., & Holyoak, K. J. (1992). Predictive and diagnostic learning within causal models: Asymmetries in cue competition. *Journal of Experimental Psychology: General*, *121*, 222-236.
- Holyoak, K. J. (1992). Cognitive psychology. In S. C. Shapiro (Ed.), *Encyclopedia of artificial intelligence* (2nd edition) (pp. 181-188). New York: Wiley. (Revision of 1st edition, 1987).
- Holyoak, K. J. (1991). Symbolic connectionism: Toward third-generation theories of expertise. In A. Ericsson & J. Smith (Eds.), *Toward a general theory of expertise: Prospects and limits* (pp. 301-355). Cambridge, UK: Cambridge University Press.
- Melz, E. R., & Holyoak, K. J. (1991). Analogical transfer by constraint satisfaction. In *Proceedings of the Thirteenth Annual Conference of the Cognitive Science Society* (pp. 822-826). Hillsdale, NJ: Erlbaum.
- Wharton, C. M., Holyoak, K. J., Downing, P. E., Lange, T. E., & Wickens, T. D. (1991). Retrieval competition in memory for analogies. In *Proceedings of the Thirteenth Annual Conference of the Cognitive Science Society* (pp. 528-533). Hillsdale, NJ: Erlbaum.
- Novick, L. R., & Holyoak, K. J. (1991). Mathematical problem solving by analogy. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *17*, 398-415.
- Holyoak, K. J. (1991). Probing the Achilles' heel of rational analysis. *Behavioral and Brain Sciences*, *14*, 498-499.
- Lange, T. E., Melz, E. R., Wharton, C. M., & Holyoak, K. J. (1990). Analogical retrieval within a hybrid spreading-activation network. In D. S. Touretzky, J. L. Elman, T. J. Sejnowski, & G. E. Hinton (Eds.), *Connectionist models: Proceedings of the 1990 Summer School* (pp. 265-276). San Mateo, CA: Morgan Kaufman.
- Thagard, P., Holyoak, K. J., Nelson, G., & Gochfeld, D. (1990). Analog retrieval by constraint satisfaction. *Artificial Intelligence*, *46*, 259-310.
- Catrambone, R., & Holyoak, K. J. (1990). Learning subgoals and methods for solving probability problems. *Memory & Cognition*, *18*, 593-603.
- Waldmann, M. R., & Holyoak, K. J. (1990). Can causal induction be reduced to associative learning? In *Proceedings of the Twelfth Annual Meeting of the Cognitive Science Society* (pp. 190-197). Hillsdale, NJ: Erlbaum.
- Holyoak, K. J., & Thagard, P. (1990). A constraint-satisfaction approach to analogue retrieval and mapping. In K. Gilhooly, M. Keane, R. Logie, & G. Erdos (Eds.), *Lines of thinking* (pp. 205-220). Chichester, UK: Wiley.
- Cheng, P. W., & Holyoak, K. J. (1989). On the natural selection of reasoning theories. *Cognition*, *33*, 285-313.
- Thagard, P., & Holyoak, K. J. (1989). Why indexing is the wrong way to think about analog retrieval. In *Proceedings of the DARPA Workshop on Case-Based Reasoning* (pp. 36-40). San Mateo, CA: Morgan Kaufmann.

- Catrambone, R., & Holyoak, K. J. (1989). Overcoming contextual limitations on problem-solving transfer. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *15*, 1147-1156.
- Holyoak, K. J., & Thagard, P. (1989). Analogical mapping by constraint satisfaction. *Cognitive Science*, *13*, 295-355. Reprinted in T. A. Polk & C. M. Siefert (Eds.) (2002), *Cognitive modeling*. Cambridge, MA: MIT Press.
- Thagard, P., Cohen, D., & Holyoak, K. J. (1989). Chemical analogies: Two kinds of explanation. In *Proceedings of the Eleventh International Joint Conference on Artificial Intelligence* (pp. 819-824). San Mateo, CA: Morgan Kaufmann.
- Holyoak, K. J., Koh, K., & Nisbett, R. E. (1989). A theory of conditioning: Inductive learning within rule-based default hierarchies. *Psychological Review*, *96*, 315-340.
- Holyoak, K. J., & Thagard, P. (1989). A computational model of analogical problem solving. In S. Vosniadou & A. Ortony (Eds.), *Similarity and analogical reasoning* (pp. 242-266). New York: Cambridge University Press.
- Bassok, M., & Holyoak, K. J. (1989). Interdomain transfer between isomorphic topics in algebra and physics. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *15*, 153-166.
- Catrambone, R., & Holyoak, K. J. (1988). Learning subgoals and methods for solving problems. In *Proceedings of the Tenth Annual Conference of the Cognitive Science Society*. Hillsdale, N.J.: Erlbaum.
- Holyoak, K. J., & Nisbett, R. E. (1988). Induction. In R. J. Sternberg & E. E. Smith (Eds.), *The psychology of thinking* (pp. 50-91). Cambridge: Cambridge University Press.
- Holyoak, K. J., & Koh, K. (1987). Surface and structural similarity in analogical transfer. *Memory & Cognition*, *15*, 323-340.
- Holyoak, K. J. (1987). A connectionist view of cognition (review of *Parallel distributed processing* by D. E. Rumelhart, J. L. McClelland, and the PDP Research Group). *Science*, *236*, 992-996.
- Gick, M. L., & Holyoak, K. J. (1987). The cognitive basis of knowledge transfer. In S. M. Cormier & J. D. Hagman (Eds.) *Transfer of learning: Contemporary research and applications* (pp. 9-46). Orlando, FL: Academic Press. (Chapter translated by Vasily Petov and published as a monograph in Russian, 1990.)
- Holyoak, K. J., Koh, K., & Nisbett, R. E. (1987). Conditioning and learning within rule-based default hierarchies. In *Proceedings of the Ninth Annual Conference of the Cognitive Science Society* (pp. 632-643). Hillsdale, N.J.: Erlbaum.
- Catrambone, R., & Holyoak, K. J. (1987). Transfer in problem solving as a function of the procedural variety of training examples. In *Proceedings of the 9th Annual Conference of the Cognitive Science Society*. Hillsdale, N.J.: Erlbaum.
- Cheng, P. W., Holyoak, K. J., Nisbett, R. E., & Oliver, L. M. (1986). Pragmatic versus syntactic approaches to training deductive reasoning. *Cognitive Psychology*, *18*, 293-328.
- Flannagan, M. J., Fried, L. S., & Holyoak, K. J. (1986). Distributional expectations and the induction of category structure. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *12*, 241-256.
- Holyoak, K. J. (1985). The pragmatics of analogical transfer. In G. H. Bower (Ed.), *The psychology of learning and motivation*, Vol. 19 (pp. 59-87). New York: Academic Press.
- Cheng, P. W., & Holyoak, K. J. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, *17*, 391-416. Reprinted in J. E. Adler & L. J. Rips (Eds.) (2008), *Reasoning: Studies in human inference and its foundations* (pp. 827-842). Cambridge, UK: Cambridge University Press.
- Thagard, P., & Holyoak, K. J. (1985). Discovering the wave theory of sound: Inductive inferences in the context of problem solving. In *Proceedings of the Ninth International Joint Conference on Artificial Intelligence* (pp. 610-612). Los Altos, CA: William Kaufman.
- Holyoak, K. J., Junn, E. N., & Billman, D. O. (1984). Development of analogical problem-solving skill. *Child Development*, *55*, 2042-2055.

- Holyoak, K. J. (1984). Mental models in problem solving. In J. R. Anderson & S. M. Kosslyn (Eds.), *Tutorials in learning and memory: Essays in honor of Gordon Bower* (pp. 193-218). San Francisco: W.H. Freeman.
- Fried, L. S., & Holyoak, K. J. (1984). Induction of category distributions: A framework for classification learning. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *10*, 234-257.
- Holyoak, K. J. (1984). Analogical thinking and human intelligence. In R. J. Sternberg (Ed.) *Advances in the psychology of human intelligence*, Vol. 2 (pp. 199-230). Hillsdale, N.J.: Erlbaum.
- Holyoak, K. J., & Gordon, P. C. (1984). Information processing and social cognition. In R. S. Wyer, Jr., & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 39-70). Hillsdale, N.J.: Erlbaum.
- Gordon, P. C., & Holyoak, K. J. (1983). Implicit learning and generalization of the "mere exposure" effect. *Journal of Personality and Social Psychology*, *45*, 492-500.
- Holyoak, K. J., & Gordon, P. C. (1983). Social reference points. *Journal of Personality and Social Psychology*, *44*, 881-887. Translated into French and reprinted in M. Piolat, M.-C. Hurtig & M.-F. Pichevin (1992). *Le soi: Recherches dans le champ de la cognition sociale* (pp. 169-187). Paris: Delachaux et Niestlé.
- Holyoak, K. J. (1983). Numerical reference points reexamined: A reply to Shoben, Cech and Schwanenflugel. *Journal of Experimental Psychology: Human Perception and Performance*, *9*, 487-490.
- Gick, M. L., & Holyoak, K. J. (1983). Schema induction and analogical transfer. *Cognitive Psychology*, *15*, 1-38.
- Holyoak, K. J. (1983). Toward a unitary theory of mind (review of *The architecture of cognition* by J. R. Anderson). *Science*, *222*, 499-500.
- Holyoak, K. J. (1983). Review of *Mental images and their transformations* by R.N. Shepard and L.A. Cooper. *American Scientist*, *71*, 206.
- Holyoak, K. J. (1982). An analogical framework for literary interpretation. *Poetics*, *11*, 105-126.
- Holyoak, K. J. (1982). Metaphorical restructuring of ill-defined problems. *Proceedings of IEEE Conference on Cybernetics and Society*.
- Holyoak, K. J., & Mah, W. A. (1982). Cognitive reference points in judgments of symbolic magnitude. *Cognitive Psychology*, *14*, 328-352.
- Kosslyn, S. M., & Holyoak, K. J. (1982). Imagery. In C. R. Puff (Ed.), *Handbook of research methods in human memory and cognition* (pp. 315-347). New York: Academic Press.
- Holyoak, K. J. (1982). Mental representations (review of *Imagery*, edited by N. Block). *Science*, *217*, 348-349.
- Holyoak, K. J., & Patterson, K. K. (1981). A positional discriminability model of linear order judgments. *Journal of Experimental Psychology: Human Perception and Performance*, *7*, 1283-1302.
- Holyoak, K. J., & Mah, W. A. (1981). Semantic congruity in symbolic comparisons: Evidence against an expectancy hypothesis. *Memory & Cognition*, *9*, 197-204.
- Holyoak, K. J. (1981). Review of *Image and mind* by S. M. Kosslyn. *Journal of Mental Imagery*, *5*, 199-204.
- Gick, M. L., & Holyoak, K. J. (1980). Analogical problem solving. *Cognitive Psychology*, *12*, 306-355. Reprinted in A. M. Aitkenhead & J. M. Slack (Eds.) (1986), *Issues in cognitive modeling*. Hillsdale, N.J.: Erlbaum.
- Glass, A. L., Holyoak, K. J., & Kiger, J. I. (1979). Role of antonymy relations in semantic judgments. *Journal of Experimental Psychology: Human Learning and Memory*, *5*, 598-606.
- Holyoak, K. J., Dumais, S. T., & Moyer, R. S. (1979). Semantic association effects in a mental comparison task. *Memory & Cognition*, *7*, 303-313.
- Holyoak, K. J., & Glass, A. L. (1978). Recognition confusions among quantifiers. *Journal of Verbal Learning and Verbal Behavior*, *17*, 249-264.

- Holyoak, K. J. (1978). Comparative judgments with numerical reference points. *Cognitive Psychology*, *10*, 203-243.
- Woocher, F. D., Glass, A. L., & Holyoak, K. J. (1978). Positional discriminability in linear orderings. *Memory & Cognition*, *6*, 165-173.
- Holyoak, K. J. (1977). The form of analog size information in memory. *Cognitive Psychology*, *9*, 31-51.
- Glass, A. L., Holyoak, K. J., & Kossan, N. E. (1977). Children's ability to detect semantic contradictions. *Child Development*, *48*, 279-283.
- Holyoak, K. J. (1977). Update on human memory (review of *Memory and cognition* by W. Kintsch). *Contemporary Psychology*, *22*, 805-806.
- Holyoak, K. J. (1977). Review of *The structure of human memory*, edited by C. Cofer. *American Journal of Psychology*, *90*, 533-536.
- Kosslyn, S. M., Holyoak, K. J., & Huffman, C. S. (1976). A processing approach to the dual coding hypothesis. *Journal of Experimental Psychology: Human Learning and Memory*, *2*, 223-233.
- Holyoak, K. J., & Walker, J. H. (1976). Subjective magnitude information in semantic orderings. *Journal of Verbal Learning and Verbal Behavior*, *15*, 287-299.
- Holyoak, K. J., Glass, A. L., & Mah, W. A. (1976). Morphological structure and semantic retrieval. *Journal of Verbal Learning and Verbal Behavior*, *15*, 235-247.
- Holyoak, K. J., Glass, A. L., & Bower, G. B. (1976). Les processus de décision dans la mémoire sémantique. In S. Ehrlich & E. Tulving (Eds.), *La mémoire sémantique* (pp. 92-101). Paris: *Bulletin de Psychologie*.
- Holyoak, K. J., & Glass, A. L. (1975). The role of contradictions and counterexamples in the rejection of false sentences. *Journal of Verbal Learning and Verbal Behavior*, *4*, 215-239.
- Glass, A. L., & Holyoak, K. J. (1975). Alternative conceptions of semantic memory. *Cognition*, *3*, 313-339.
- Holyoak, K. J. (1974). The role of imagery in the evaluation of sentences: Imagery or semantic factors? *Journal of Verbal Learning and Verbal Behavior*, *13*, 163-166.
- Glass, A. L., Holyoak, K. J., & O'Dell, C. (1974). Production frequency and the verification of quantified statements. *Journal of Verbal Learning and Verbal Behavior*, *13*, 237-254.
- Glass, A. L., & Holyoak, K. J. (1974). The effect of *some* and *all* on reaction time for semantic decisions. *Memory & Cognition*, *2*, 436-440.
- Yuille, J. C., & Holyoak, K. J. (1974). Verb imagery and noun phrase concreteness in the recognition and recall of sentences. *Canadian Journal of Psychology*, *28*, 359-370.
- Bower, G. H., & Holyoak, K. J. (1973). Encoding and recognition memory for naturalistic sounds. *Journal of Experimental Psychology*, *101*, 360-366.
- Holyoak, K. J., Hogeterp, H., & Yuille, J. C. (1972). A developmental comparison of verbal and pictorial mnemonics in children's paired-associate learning. *Journal of Experimental Child Psychology*, *14*, 53-65.

Published Abstracts (Neuroscience Only)

- Chiang, J. N., Peng, Y., Lu, H., Holyoak, K. J., & Monti, M. (2018). The neural computations underlying relational reasoning. *Program No. 514.26/HHH51 Neuroscience Meeting Planner*. San Diego, CA: Society for Neuroscience, November. Online.
- Chiang, J. N., Peng, Y., Lu, H., Holyoak, K. J., & Monti, M. (2017). Neural correlates of analogical representation and transfer. Annual Meeting of the Organization for Human Brain Mapping (Vancouver, June).
<https://www.aievolution.com/hbm1701/index.cfm?do=abs.pubSearchAbstracts>
- Vendetti, M., Knowlton, B. J., & Holyoak, K. J. (2011). Acute mild stress impairs analogical reasoning. *Program No. 931.09. 2011 Abstract Viewer*. San Diego, CA: Society for Neuroscience, November. Online.
- Vendetti, M., Cho, S., Moody, T. D., Knowlton, B. J., Poldrack, R. A., Cannon, T. D., & Holyoak, K. J. (2010). Relational integration in the semantic processing of analogies.

- Program No. 802.7. 2010 Abstract Viewer*. San Diego, CA: Society for Neuroscience, November. Online.
- Cho, S., Moody, T. D., Poldrack, R., Cannon, T., Knowlton, B. J., & Holyoak, K. J. (2007). Neural basis of analogical reasoning: Event-related fMRI yields evidence of prefrontal substrate for relational integration and interference resolution. *Journal of Cognitive Neuroscience Supplement*, 234.
- Moody, T. D., Cho, S., Fernandino, L., Cannon, T. D., Knowlton, B. J., & Holyoak, K. J. (2006). Neural substrates of relational integration in analogical reasoning: Evidence from event-related fMRI. *Program No. 310.2. 2006 Abstract Viewer*. Atlanta, GA: Society for Neuroscience, November. Online.
- Cho, S., Holyoak, K. J., & Cannon, T. D. (2006). Analogical reasoning in working memory: Resources shared among relational integration, inhibition, and maintenance. *Journal of Cognitive Neuroscience Supplement*, 76.
- Satpute, A. B., Sellner, D. B., Waldmann, M. R., Tabibnia, G., Holyoak, K. J., & Lieberman, M. D. (2004). An fMRI study of causal versus associative judgments. *Journal of Cognitive Neuroscience Supplement*, 23, 209.
- Viskontas, I. V., Knowlton, B. J., & Holyoak, K. J. (2002). Analogical reasoning across the lifespan. *Program No. 182.7. 2002 Abstract Viewer*. Washington, DC: Society for Neuroscience, November. Online.
- Viskontas, I. V., Knowlton, B. J., & Holyoak, K. J. (2002). Relational integration in old age. *Journal of Cognitive Neuroscience Supplement*, 21, 77.
- Morrison, R. G., Hummel, J. E., & Holyoak, K. J. (2002). A computational account of working memory and inhibition in analogical reasoning. *Journal of Cognitive Neuroscience Supplement*, 21, 75.
- Krawczyk, D., Morrison, R. G., Holyoak, K. J., Chow, T., Miller, B. L., & Knowlton, B. J. (2002). Analogical reasoning and inhibition in prefrontal cortex. *Journal of Cognitive Neuroscience Supplement*, 21, 127.
- Fales, C. L., Holyoak, K. J., Geschwind, D. H., Gau-Gonzalo, I., & Knowlton, B. J. (2001). Working memory and relational reasoning in Klinefelter syndrome. *Journal of Cognitive Neuroscience Supplement*, 11, 49.
- Krawczyk, D. C., Morrison, R. G., Holyoak, K. J., Chow, T., Miller, B. L., & Knowlton, B. J. (2001). Reasoning about picture analogies in prefrontal cortex. *Journal of Cognitive Neuroscience Supplement*, 11, 75.
- Morrison, R. G., Krawczyk, D. C., Holyoak, K. J., Chow, T., Miller, B. N., & Knowlton, B. J. (2001). Semantic inhibition and analogical reasoning in prefrontal cortex. *Journal of Cognitive Neuroscience Supplement*, 11, 75.
- Holyoak, K. J., Kroger, J. K., Sabb, F. W., Fales, C. L., Cohen, M. S., & Bookheimer, S. Y. (2001). Recruitment of dorsolateral and anterior prefrontal cortex for relationally complex processing. *Journal of Cognitive Neuroscience Supplement*, 11, 144.
- Morrison, R. G., Krawczyk, D., Knowlton, B. J., Holyoak, K. J., Boone, K. B., Chow, T., & Mishkin, F. S. (2001). Relational reasoning and semantic inhibition in human prefrontal cortex. *Brain & Cognition*, 47, 292-296.
- Christoff, K., Prabhakaran, V., Dorfman, J., Kroger, J. K., Dirksen, C., Zhao, Z., Holyoak, K. J., & Gabrieli, J. D. E. (1999). Relational processing during reasoning and working memory tasks: An event-related fMRI study. *Society for Neuroscience Abstracts*, 25, 1551.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Boone, K. B., Masterman, D., Chow, T., Reback, E., Barclay, T., Carr, L., O'Connor, S., Mishkin, F. S., & Miller, B. L. (1999). Performance on the N-back task dissociates DAT patients with prefrontal cortical impairment from those without. *Journal of Cognitive Neuroscience Supplement*, 11, 34.
- Hummel, J. E., Kroger, J. K., & Holyoak, K. J. (1998). A symbolic connectionist model of performance in a generalized match-to-sample task. *Journal of Cognitive Neuroscience Supplement*, 10, 58.

- Hummel, J. E., Waltz, J. A., Knowlton, B. J., & Holyoak, K. J. (1998). A symbolic-connectionist model of the impact of prefrontal damage on transitive reasoning. *Journal of Cognitive Neuroscience Supplement*, *10*, 59.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Boone, K. B., & Miller, B. L. (1998). A double dissociation between declarative memory and relational reasoning. *Journal of Cognitive Neuroscience Supplement*, *10*, 48.
- Kroger, J. K., Holyoak, K. J., Bookheimer, S. Y., & Cohen, M. S. (1998). Processing relationally complex representations in Raven's Progressive Matrices: An fMRI study. *Society for Neuroscience Abstracts*, *24*, 1178.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Masterman, D., Tom, T., Boone, K. B., & Miller, B. L. (1998). Performance of patients with dementia of Alzheimer's type on relational reasoning tasks sensitive to prefrontal cortical damage. *Society for Neuroscience Abstracts*, *24*, 258.
- Knowlton, B. J., Waltz, J. A., Holyoak, K. J., Boone, K. B., & Miller, B. L. (1997). Relational complexity and reasoning in fronto-temporal dementia. *Society for Neuroscience Abstracts*, *23*, 258.
- Waltz, J. A., Knowlton, B. J., Holyoak, K. J., Boone, K. B., & Miller, B. L. (1997). Relational reasoning in fronto-temporal dementia. *Society for Neuroscience Abstracts*, *23*, 258.

Department and University Service

University of California, Los Angeles:

Vice Chair for Academic Personnel
 Chair, Cognitive Science Development Committee
 Chair, Cognitive Area
 Chair, Cognitive Search Committee (multiple times)
 Co-Chair, Assistant Professor Guidance Committee
 Psychology Dept. Executive Committee
 Merit Review Committee
 Departmental Long-Range Planning Committee
 Graduate Admissions Committee

University of Michigan:

Graduate Studies Committee
 Experimental Area Graduate Admissions Committee
 Search Committees in Developmental and Experimental Psychology
 Human Subjects Review Committees (for both College and Psychology Department)
 Experimental Area Graduate Student Progress Committee
 Experimental/ Mathematical Areas Training Grant Committee
 Departmental Executive Committee
 College Internal Grant Review Board
 Undergraduate Academic Counselor
 Coordinator of Psychology 170 (Introductory Experimental)

Grants

National Science Foundation (with H. Lu & A. Yuille)

Title: Collaborative Research: CompCog: Achieving Analogical Reasoning via Human and Machine Learning

Dates: August 15, 2018 to July 31, 2021

Amount: \$477,000 (\$318,113 direct)

Google Faculty Research Award

Title: Human Relational Reasoning and Creativity: Experimental and Computational Studies

Dates: April 1, 2018 (no end date)

Amount: \$64,500

UCLA Academic Senate

Title: Neuroimaging of Analogical Reasoning

Dates: July 1, 2015 to June 30, 2016

Amount: \$9000

Office of Naval Research

Title: Analogical Reasoning: Integration of Neural, Behavioral and Computational Analyses

Dates: March 1, 2008 to February 28, 2014

Amount: \$927,215

Institute of Education Sciences (Co-PI; Eva Baker, PI)

Title: Center for Advanced Technology in Schools

Dates: September 14, 2010 to September 14, 2013

Amount: \$592,000

Canon, Inc.

Title: Analogical Reasoning and Creative Product Design

Dates: February 1, 2010 (no end date)

Amount: \$87,500 (gift to Holyoak lab)

Intelligence Advanced Research Project Activities (UCLA PI; with Lockheed Martin)

Title: FRAMES: Framework for Analogy and Memory Embodied as Spiking Neurons

Dates: December 12, 2010 to December 5, 2012

Amount: \$705,140

Air Force Office of Scientific Research (Co-I; Alan Yuille, PI)

Title: Hidden Causal Structure for Reasoning and Learning: Human Cognition, Machine Intelligence, and Statistics

Dates: October 1, 2008 to September 30, 2011

Amount: \$900,000

Office of Naval Research (in collaboration with Medantic Technology)

Title: Distributed Training for Force Mobilization: CBRNE

Dates: December 1, 2006 to August 31, 2007

Amount: \$24,998

National Institute of Mental Health

Title: Neuroimaging of Analogical Reasoning

Dates: July 1, 2005 to June 30, 2008

Amount: \$129,976 (\$100,000 direct)

National Science Foundation (with D. Simon & S. Read)

Title: Coherence-Based Decision Making: A Theoretical Framework and Practical Applications

Dates: April 15, 2004 to March 31, 2007

Amount: \$143,250 (\$98,436 direct)

Institute of Education Sciences

Title: A Multidisciplinary Study of Analogical Transfer in Children's Mathematics
Dates: January 1, 2004 to December 31, 2006
Amount: \$300,715 (\$202,195 direct)

Office of Naval Research (in collaboration with Medantic Technology)
Title: An Intelligent System for Case-Based Instruction
Dates: July 1, 2004 to January 31, 2005
Amount: \$29,926 (\$19,496 direct)

National Science Foundation (with D. Simon & S. Read)
Title: Collaborative Research: Applying Constraint Satisfaction Models to Legal Reasoning
Dates: August 1, 2000 to June 30, 2004
Amount: \$178,330

Office of Naval Research (in collaboration with Medantic Technology)
Title: Authoring Shell for Case-based Reasoning
Dates: January 25, 2002 to July 24, 2002
Amount: \$16,191

National Science Foundation (with J. Hummel)
Title: Learning and Inference with Schemas and Analogies
Dates: February 1, 1998 to January 31, 2001
Amount: \$250,000

National Science Foundation (with J. Hummel)
Title: Schema Induction in a Structure-Sensitive Connectionist Model
Dates: August 15, 1995 to July 31, 1998
Amount: \$150,000

National Institute of Neurological Disorders and Stroke (with J. Grafman & F. Boller)
Title: Structure and Functions of the Human Prefrontal Cortex
Dates: September 30, 1994 to September 29, 1995
Amount: \$17,000

National Science Foundation
Title: Mechanisms of Analogical Reminding and Priming
Dates: August 15, 1993 to August 14, 1995
Amount: \$150,000

Army Research Institute (with P. Thagard)
Title: A Cognitive Architecture for Analogy and Problem Solving
Dates: September 1, 1989 to August 31, 1992
Amount: \$599,793

National Science Foundation (Co-PI; 4 others)
Title: Maintenance and Support for Parallel Computation in Cognitive Science and Cognate Areas
Dates: August 1, 1991 to July 31, 1994
Amount: \$600,000

Biomedical Research Support Grant
Title: Conditioning and Learning Within Rule-based Default Hierarchies
Dates: June 14, 1989 to June 30, 1990

Amount: \$15,420

National Science Foundation (Co-PI; 9 others)
Title: Center for Research in Computational Neuro-Cognition
Dates: July 1, 1987 to June 30, 1988
Amount: \$994,700 (plus \$300,000 supplement, August 1988)

Keck Foundation (Co-PI; 7 others)
Title: Center for Research in Computational Neuro-Cognition
Dates July 1, 1988 to June, 30, 1990
Amount: \$750,000

Army Research Institute (with P. Thagard)
Title: A Cognitive Model for Solving Ill-Defined Problems
Dates: September 1, 1986 to August 31, 1989
Amount: \$400,840

National Science Foundation (with M. Bassok)
Title: Instruction and Transfer Between Isomorphic Topics in Algebra and Physics
Dates: September 1, 1986 to August 31, 1989
Amount: \$106,108

National Science Foundation (with R. Nisbett)
Title: Formal versus Pragmatic Approaches to Deductive Reasoning
Dates: October 1, 1984 to September 30, 1986
Amount: \$45,000

National Science Foundation
Title: Cognitive Processing of Analogy
Dates: April 1, 1983 to September 30, 1986
Amount: \$118,445

Spencer Foundation (with P. Cheng and R. Nisbett)
Title: Influence of Logic Training and Substantive Knowledge on Deductive Reasoning
Dates: January 1, 1983 to June 1, 1984
Amount: \$5,000

Systems Development Foundation (with J. Holland, R. Nisbett, and P. Thagard)
Title: The Process of Induction
Dates: August 1, 1983 to September 30, 1984
Amount: \$15,500

National Science Foundation (with L. S. Fried)
Title: Perceptual Learning with Ill-Defined Categories
Dates: June 1, 1979 to January 31, 1984
Amount: \$115,247

National Institute of Mental Health
Title: Cognitive Processing of Magnitude and Order Information
Dates: June 1, 1979 to December 31, 1982
Amount: \$120,745

National Science Foundation
Title: Decision Processes in Judgments of Order and Relative Magnitude

Dates: June 1, 1977 to December 31, 1979
Amount: \$59,900

Rackham Faculty Grant, University of Michigan
Title: Perceptual Learning with Ill-Defined Categories
Dates: January 1, 1978 to December 31, 1978
Amount: \$5,028

Rackham Faculty Grant, University of Michigan
Title: Decision Processes in Judgments of Order and Relative Magnitude
Dates: January 1, 1977 to December 31, 1977
Amount: \$5,004