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Vita

Patricia Wenjie Cheng

Personal Information

Address:

Department of Psychology
University of California
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310.825.8174 (office)
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Citizenship:

Chinese and U.S.

Education

University of Michigan, 1973-76; 78-80
Ph.D. (1980) in Psychology

Barnard College, 1971-73
B.A., *magna cum laude* (1973) in Psychology

Pomona College, 1970-71

Vassar College, 1969-70

Academic Appointments

Professor, Department of Psychology,
University of California, Los Angeles, 1998-

Associate Professor, Department of Psychology,
University of California, Los Angeles, 1991-1998

Assistant Professor, Department of Psychology,
University of California, Los Angeles, 1986-91

Research Associate, Department of Computer Science,
Carnegie-Mellon University, 1984-86

Research Associate, Department of Psychology,
University of Michigan, 1983-84

Assistant Professor, Department of Psychology,
Chinese University of Hong Kong, 1982-83

Grants and Awards

Fellow of Association for Psychological Science, since 2010
Fellow of the Guggenheim Foundation, 2000

Air Force Office of Scientific Research
Hidden causal structure for reasoning and learning:
Human cognition, machine intelligence, and statistics
Period: 1/2009 – 12/2011
Amount: \$550,000 (direct costs).

National Institute of Mental Health
Title: Natural causal discovery: Learning simple and complex causes
Period: 7/1/2002 – 6/30/2006
Amount: \$400,000.

John Simon Guggenheim Fellow, 2000-2001
Period: 7/1/2000 - 7/1/2001
Amount: \$35,000

National Science Foundation
Title: Natural causal induction
Period: 9/1/1998 – 7/31/2001
Amount: \$183,000

National Science Foundation
Title: Natural causal induction
Period: 4/1/92 - 3/31/94
Amount: \$145,058

National Science Foundation
Title: Inference, instruction, and pragmatic reasoning schemas
Period: 9/1/87 - 8/31/91
Amount: \$125,000

Academic Senate of UCLA Research Award , 12/8/86 - 6/30/87
UCLA Faculty Career Development Award, 9/88 - 12/88
Academic Senate of UCLA Research Award, 7/1/90 - 6/30/91
Academic Senate of UCLA Research Award, 7/1/94 - 6/30/99
Academic Senate of UCLA Research Award, 7/1/00 - 6/30/01
Academic Senate of UCLA Research Award, 7/1/01 - 6/30/02
UCLA Intramural Grant, 7/1/12 – 6/30/15

Primary Interests

causal reasoning
training reasoning and problem solving
concept formation and skill acquisition

Teaching Experience

Chinese University of Hong Kong (undergraduate)

Introduction to Statistics

Experimental Design

Learning

Human Memory

University of Michigan (undergraduate)

Introduction to Psychology

University of California, Los Angeles

Undergraduate: Cognitive Psychology

Cognitive Psychology Laboratory

Cognitive Science

Cognitive Science Laboratory

Thinking

Graduate: Thinking and Reasoning

Cognitive Science Laboratory

Current or Previous Member of Editorial Board

American Psychologist, Associate Editor

Cognition

Thinking & Reasoning

Psychological Review

Ad Hoc Reviewer

Cognition & Instruction

Cognitive Development

Cognitive Psychology

Cognitive Science

Journal of Experimental Child Psychology

Quarterly Journal of Experimental Psychology

Air Force Office of Scientific Research

National Science Foundation

Journal of Experimental Social Psychology

Journal of Experimental Psychology: General

Journal of Personality and Social Psychology

Memory & Cognition

Psychological Review

Articles

Cheng, P. W., & Pachella, R. G. (1984). A psychophysical approach to dimensional separability. *Cognitive Psychology*, *16*, 279-304.

Cheng, P. W. (1985). Restructuring versus automaticity: Alternative accounts of skill acquisition. *Psychological Review*, *92*, 414-424.

Cheng P. W. (1985). Categorization and response competition: Two non-automatic factors. *Psychological Review*, *92*, 583-584.

- Cheng, P. W. (1985). Pictures of ghosts: A critique of Alfred Bloom's *The linguistic shaping of thought*. *American Anthropologist*, *87*, 917-922.
- Cheng, P. W., & Holyoak, K. J. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, *17*, 391-416.
- 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.
- Cheng, P. W., & Carbonell J. G. (1986). The FERMI system: Inducing iterative macro-operators from experience. *Proceedings of 1986 Meeting of the American Association for Artificial Intelligence*, *1*, 490-495.
- Nisbett, R.E., Fong, G.T., Lehman, D., & Cheng, P.W. (1987). Teaching reasoning. *Science*, *238*, 625-631.
- Cheng, P.W., & Holyoak, K.J. (1989). On the natural selection of reasoning theories. *Cognition*, *33*, 285-313.
- Lien, Y., & Cheng, P.W. (1989) A framework for psychological causal induction: Integrating the power and covariation views. *Proceedings of the 11th Annual Conference of the Cognitive Science Society* (pp. 729-833). Hillsdale, NJ: Erlbaum.
- Cheng, P.W., & Novick, L.R. (1990 a). Where is the bias in causal attribution? In K.J. Gilhooly, M. Keane, R. Logie, & G. Erdos (Eds.), *Lines of thinking: Reflections on the psychology of thought* (pp. 181-197). Chichester, UK: Wiley.
- Cheng, P.W., & Novick, L.R. (1990 b). A probabilistic contrast model of causal induction. *Journal of Personality and Social Psychology*, *58*, 545-567.
- Cheng, P.W., & Novick, L.R. (1991). Causes versus enabling conditions. *Cognition*, *40*, 83-120.
- Cheng, P.W., & Novick, L.R. (1992). Covariation in natural causal induction. *Psychological Review*, *99*, 365-382.
- Reprinted in Goldstein, W.M., & Hogarth, R.M. (Eds, 1997). *Research on judgment and decision making: Currents, connections, and controversies*. New York: Cambridge University Press.
- Novick, L.R., Fratianne, A., & Cheng, P.W. (1992). Knowledge-based assumptions in causal attribution. *Social Cognition*, *10*, 299-333.
- Cheng, P.W., & Nisbett, R.E. (1993). Pragmatic constraints on causal deduction. In R.E. Nisbett (Ed.), *Rules for reasoning* (pp. 207 – 227). Hillsdale, NJ: Erlbaum.
- 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.

- 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*, 615-636.
- Wharton, C.M., Cheng, P.W., & Wickens, T.D. (1993). Hypothesis-testing strategies: Why two goals are better than one. *Quarterly Journal of Experimental Psychology*, *46A*, 743-758.
- Cheng, P.W. (1993). Separating causal laws from casual facts: Pressing the limits of statistical relevance. In D.L. Medin (Ed.), *The psychology of learning and motivation*, vol. 30 (pp. 215-264). New York: Academic Press.
- 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 science* (pp. 271-302). Cambridge, MA: MIT Press.
- Cheng, P.W., & Lien, Y. (1995). The role of coherence in differentiating genuine from spurious causes. In D. Sperber, D. Premack, & A. J. Premack (Eds.), *Causal cognition: A multidisciplinary debate* (pp. 463-494). New York, NY: Oxford University Press.
- Holyoak, K.J., & Cheng, P.W. (1995 a). Pragmatic reasoning about human voluntary action: Evidence from Wason's selection task. In S. Newstead & J.St. B.T. Evans (Eds.), *Perspectives on thinking and reasoning: Essays in honor of Peter Wason* (pp. 67-89). East Essex, U.K.: Erlbaum.
- Yarlas, A. S., Cheng, P. W., & 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 17th Annual Conference of the Cognitive Science Society* (pp. 431-436). Hillsdale, NJ: Erlbaum.
- Holyoak, K.J., & Cheng, P.W. (1995 b). Pragmatic reasoning with a point of view. *Thinking & Reasoning*, *1*, 289-313.
- Holyoak, K. J., & Cheng, P. W. (1995 c). Pragmatic reasoning from multiple points of view: A response. *Thinking & Reasoning*, *1*, 373-388.
- Cheng, P.W., Park, J., Yarlas, A., & 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). NY, NY: Academic Press.
- Cheng, P.W. (1997). From covariation to causation: A causal power theory. *Psychological Review*, *104*, 367-405.
- Buehner, M. J., & Cheng, P.W. (1997). Causal induction: The power PC theory versus the Rescorla-Wagner model. In the *Proceedings of the 19th Annual Conference of the Cognitive Science Society* (pp. 55-60). Hillsdale, NJ: Erlbaum.

- Glymour, C., & Cheng, P.W. (1998). Causal mechanism and probability: A normative approach. In M. Oaksford & N. Chater (Eds.), *Rational models of cognition* (pp. 295-313). Oxford, U.K.: Oxford University Press.
- Wu, M., & Cheng, P.W. (1999). Why causation need not follow from statistical association: Boundary conditions for the evaluation of generative and preventive causal powers. *Psychological Science, 10*, 92-97.
- Cheng, P.W. (2000). Causal reasoning. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of cognitive sciences* (pp. 106-108). Cambridge, MA: MIT Press.
- Lien, Y., & Cheng, P.W. (2000). Distinguishing genuine from spurious causes: A coherence hypothesis. *Cognitive Psychology, 40*, 87-137.
- Cheng, P.W. (2000). Causality in the mind: Estimating contextual and conjunctive causal power. In F. Keil & R. Wilson (Eds.), *Explanation and cognition* (pp. 227-253). Cambridge, MA: MIT Press.
- Chao, J., & Cheng, P.W. (2000). The emergence of inferential rules: The use of pragmatic reasoning schemas by preschoolers. *Cognitive Development, 15*, 39-62.
- Choplin, J.M., Cheng, P.W., & Holyoak, K.J. (2001). Causal information as a constraint on similarity. In J. Moore & K. Stenning (Eds.), *Proceedings of the 23rd Annual Conference of the Cognitive Science Society* (pp. 240-243). Hillsdale, NJ: Erlbaum.
- Buehner, M., Cheng, P.W., Clifford, D. (2003.) From covariation to causation: A test of the assumption of causal power. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 29*, 1119-1140.
- Novick, L.R., & Cheng, P.W. (2004). Assessing interactive causal influence. *Psychological Review, 111*, 455-485.
- Ford, E.C., & Cheng, P.W. (2004). Sensitivity to confounding in causal inference: From childhood to adulthood. In K. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of the 26th Annual Conference of the Cognitive Science Society* (pp. 398-403). Hillsdale, NJ: Erlbaum.
- Buehner, M. & Cheng, P.W. (2005.) Causal learning. In K.J. Holyoak & R.G. Morrison (Eds.), *Cambridge handbook of thinking and reasoning* (pp. 143-168). New York, N.Y.: Cambridge University Press.
- Cheng, P.W., & Novick, L.R. (2005). Constraints and nonconstraints in causal learning: Reply to White (2005) and to Luhmann and Ahn (2005). *Psychological Review, 112*, 694-707.
- Lu, H., Yuille, A., Liljeholm, M., Cheng, P.W., Holyoak, K.J. (2006). Modelling causal learning using Bayesian generic priors on generative and preventive powers. In R. Sun & N. Miyake (Eds.), *Proceedings of the 28th Conference of the Cognitive Science Society* (pp. 519-524). Austin, TX: Cognitive Science Society.

- Cheng, P.W., Novick, L.R., Liljeholm, M. & Ford, C. (2007). In M. O'Rourke (Ed.), *Topics in contemporary philosophy, Volume 4: Causation and explanation* (pp. 1 – 32). Cambridge, MA: MIT Press.
- Liljeholm, M., & Cheng, P.W. (2007). When is a cause the "same"? Coherent generalization across contexts. *Psychological Science, 18*, 1014-1021.
- Waldmann, M.R., Cheng, P.W., Hagmayer, Y., and Blaisdell, A.P. (2008). Causal learning in rats and humans: A minimal rational model. In N. Chater & M. Oaksford (Eds.), *Rational models of cognition* (pp. 453-484). Oxford, U.K.: Oxford University Press.
- Lu, H., Yuille, A., Liljeholm, M., Cheng, P.W., & Holyoak, K.J. (2008). Bayesian generic priors for causal learning. *Psychological Review, 115*, 955-984.
- Liljeholm, M. & Cheng, P.W. (2009). The influence of virtual sample size on confidence and causal strength judgments. *Journal of Experimental Psychology: Learning, Memory, & Cognition, 35*, 157-172.
- Carroll, C.D., & Cheng, P.W. (2009). Preventative scope in causation. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 833-838). Austin, TX: Cognitive Science Society.
- 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(2)*, 221-223.
- Carroll, C.D., & Cheng, P.W. (2010). The induction of hidden causes: Causal mediation and violations of independent causal influence. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 913-918). Austin, TX: Cognitive Science Society.
- Carroll, C.D., & Cheng, P.W., & Lu, H. (2010). Uncertainty in causal inference: The case of retrospective reevaluation. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 1076-1081). 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.
- Carroll, C.D., & Cheng, P.W., & Lu, H. (2011). Uncertainty and dependency in causal inference. In *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 1418-1423). Austin, TX: Cognitive Science Society.
- Cheng, P.W. & Buehner, M. (2012). Causal learning. In K. J. Holyoak & R. G. Morrison (Eds.), *Oxford Handbook of Thinking and Reasoning* (pp. 210- 233). New York: Oxford University Press.
- Carroll, C. D., Cheng, P. W., & Lu, H. (2013). Inferential dependencies in causal Inference: A comparison of belief-distribution and Associative Approaches. *Journal of Experimental Psychology: General, 142*, 845–863.

- Cheng, P.W., Liljeholm, M. & Sandhofer, C. (2013). Logical consistency and objectivity in causal learning. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 2034-2039). Austin, TX: Cognitive Science Society.
- Walker, J.M., Cheng, P.W. & Stigler, J.W. (2014). Equations are effects: Using causal contrasts to support algebra learning. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Powell, D., Cheng, P.W. & Waldmann, M.R. (2016). How should autonomous vehicles behave in moral dilemmas? Human judgments reflect abstract moral principles. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Ye, J.P., Walker, J.M., & Cheng, P.W. (2016). Causal contrasts promote algebra problem solving. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Cheng, P.W. & Lu, H. (2016). Causal Invariance as an Essential Constraint for Creating a Causal Representation of the World: Generalizing the Invariance of Causal Power. In M.R. Waldmann (Ed). *The Oxford Handbook of Causal Reasoning* (pp. 65-84). Oxford, England: Oxford University Press.
- Cheng, P.W., Liljeholm, M., Sandhofer, C.M. (2017). Analytic causal knowledge for constructing useable empirical causal knowledge: Two experiments on preschoolers. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Saito, M. & Cheng, P.W. (2017). Estimating Causal Power between Binary Cause and Continuous Outcome. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Bye, J. K., Chuang, P.-J., Anthony, L. E., & Cheng, P. W. (2020). Teaching the purpose and meaning of algebraic variables through systems-of-equations story problems: Multimedia approaches. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 3* (pp. 1799-1800). Nashville, Tennessee: International Society of the Learning Sciences. <https://doi.dx.org/10.22318/icls2020.1799>
- Park, J., McGillivray, S., Bye, J.K. & Cheng, P.W. (2021). Causal invariance as an implicit aspiration: Analytic knowledge of invariance functions. *Cognitive Psychology*. [https://authors.elsevier.com/sd/article/S0010-0285\(21\)00055-4](https://authors.elsevier.com/sd/article/S0010-0285(21)00055-4)
- Cheng, P.W., Liljeholm, M., Sandhofer, C.M. (accepted pending revision). Analytic causal knowledge for constructing useable empirical causal knowledge: Two experiments on preschoolers. *Cognitive Science*.
- Bye, J.K., Chuang, P.J., Cheng, P.W. (under review). How Do Humans Want Causes to Combine Their Effects? The Role of Causal Invariance for Generalizable Causal Knowledge. *Cognition*

Lee, J., Wong, E.F., Cheng, P.W. (under review). Promoting Pro-Climate Actions: A Cognitive-Constraints Approach. *Cognitive Psychology*.

Ichien, N. & Cheng, P.W. (in press). Revisiting Hume in the 21st century: The possibility of generalizable causal beliefs given inherently unobservable causal relations. In A. Wiegmann & P. Willemsen (Eds). *Advances in Experimental Philosophy of Causation*. London, UK: Bloomsbury Press.

Invited Talks and Conference Presentations

- Cheng, P.W. A probabilistic contrast model of causal induction. Invited paper presented at the Annual Meeting of the Society of Experimental Social Psychologists, Santa Monica, October 1989.
- Cheng, P.W., & Nisbett, R.N. A pragmatic schema for causal deduction. Invited paper presented at the Rocky Mountain Psychological Association, Tucson, April 1990.
- Cheng & Fratianne. Dynamic hypothesis testing: the link between implicit and explicit causal reasoning. Invited colloquium at Northwestern University, June, 1992.
- Cheng, P.W. & Lien, W. The role of coherence in differentiating genuine from spurious causes. Invited paper presented at the Conference on Causal Understandings in Cognition and Culture. Paris, France, January, 1993.
- Cheng, P.W., & Fratianne, A. Dynamic hypothesis testing: the link between implicit and explicit causal reasoning. Invited colloquium at University of California, Santa Barbara, May, 1993.
- Cheng, P.W., & Novick, L.R. Explaining probabilistic contrasts as estimates of causal power. In F.Van Overwalle & M.W. Morris (Chairs), Attribution processes. Invited paper, Symposium conducted at the 1995 Joint EAESP/SESP (European Association of Experimental Social Psychology/ Society for Experimental Social Psychologists) Meeting, Washington, D.C., September, 1995.
- Cheng, P.W. Goal of inference interacts with base-rate of effect. Invited paper, Symposium on Reasoning at the International Congress of Psychology, Montreal, August, 1996
- Cheng, P.W. From covariation to causation. Invited paper, Symposium on Thinking and Reasoning at the International Conference on Thinking, London, September, 1996
- Cheng, P.W. Implicit versus explicit causal reasoning. Invited address at the Eleventh Annual Vancouver Cognitive Science Conference, Vancouver, February, 1998.
- Cheng, P.W. Invited address, Implicit versus explicit causal reasoning. University of Chicago, Sloan School of Business, December, 1998.
- Cheng, P.W. The role of coherence in differentiating genuine from spurious causes. Invited address, California Institute of Technology, Department of Philosophy, March, 1999.
- Cheng, P.W. Assessing conjunctive causal influence. Invited paper, Symposium on associative learning. EPA. Rhode Island, April, 1999.
- Cheng, P.W. Covariation and conjunctive causation. Invited paper, Symposium on reasoning, Japanese Society of Educational Psychologists. Tokyo, Japan, September, 2000.
- Cheng, P.W. Assessing conjunctive causal influence. Invited keynote address, Spanish Society of Experimental Psychologists. Granada, Spain, September, 2000.

- Cheng, P.W. Inferring causal power from covariation. Invited paper, Symposium on everyday causal reasoning. Annual Meeting of the Psychonomics Society. New Orleans, November, 2000
- Cheng, P.W. Simple and conjunctive causation. Invited address, Colloquium series at UC Berkeley's Institute for Cognitive Studies. December, 2000
- Cheng, P.W. Assessing conjunctive causation. Invited address, Colloquium series at the Department of Psychology, University of Washington. February, 2001
- Cheng, P.W. Assessing interactive causal influence. Invited paper, Department of Statistics, UCLA. May, 2001.
- Cheng, P.W. Assessing interactive causal influence. Invited talk, Department of Philosophy, UC Irvine. May, 2001.
- Cheng, P.W., & Novick, L. R. Assessing Interactive Causal Influence: A Psychological Theory & its Implications. Invited paper, Causal Inference Conference, Snowbird, Utah. August, 2002.
- Cheng, P.W. Functional Basic-Level Categories and Causal Theories. Invited paper, Florida Artificial Intelligence Conference, Pensacola, Florida, May, 2002
- Cheng, P.W. Testing causal hypotheses regarding categorical data resulting from discrete variables. Invited talk, Biostatistics Department, UCLA, February, 2003.
- Cheng, P.W. A psychological model of the assessment of interactive causal influence. Invited colloquium, Princeton Psychology Colloquium, February, 2003.
- Cheng, P.W. Causal discovery: Assessing simple and complex causes. Invited talk, Developmental Brownbag, University of California, Riverside, April, 2003.
- Cheng, P.W. Causal power and the assessment of interactive causal influence. Invited paper, Inland Northwest Philosophy Conference, University of Idaho and Washington State University, Pullman, Washington. May, 2003.
- Cheng, P.W. & James, N. The formation of functional categories and causal learning: A unitary process. Invited paper, Workshop on causation and categorization. Center for Advanced Study in the Behavioral Sciences, Stanford. February, 2004.
- Cheng, P.W. The Deductive Nature of Causal Induction. Invited paper, The 28th International Congress of Psychology. Beijing, August, 2004.
- Cheng, P.W. A Probabilistic Representation of Causation: Some Implications. Invited talk, Conference on Probabilistic models of cognition: the Mathematics of mind at Institute of Pure and Applied Mathematics, UCLA. January, 2005.

- Cheng, P.W. Explaining Covariation by Causation: Implications of Causal Assumptions for Coherence and Compositionality, Invited colloquium, Department of Psychology, Cardiff University, Wales. March, 2006.
- Cheng, P.W. Explaining Covariation by Causation: Implications of Causal Assumptions for Coherence and Compositionality, Invited talk, Department of Psychology, University College London, London. March, 2006.
- Cheng, P.W. Explaining Covariation by Causation: Implications of Causal Assumptions for Coherence and Compositionality, Invited colloquium, Department of Psychology, University of Illinois, Champagne-Urbana. March, 2006.
- Cheng, P.W. A Single-Effect Model of Causal Learning. Invited paper, Symposium on the Origin of Causal Knowledge, Ardennes, Belgium. May, 2007.
- Cheng P.W. Causal reasoning in humans and rats. Invited talk, Summer Program on Probabilistic Models of Cognition. Institute of Pure and Applied Mathematics, UCLA. July, 2007.
- Cheng, P.W. Causal Assumptions for Coherence and Compositionality. Symposium on Causal Strength. Invited paper, Annual Meeting of the Society of Mathematical Psychologists, Washington D.C. July, 2008.
- Cheng, P.W. A causal-power explanation of diagnostic reasoning in rats. Invited paper, Japanese Psychological Society. Symposium, Sapporo. September, 2008.
- Cheng, P.W. Causal Assumptions for Coherence and Compositionality. Japanese Psychological Association. Invited keynote address. University of Sapporo, Sapporo. September, 2008.
- Cheng, P.W. Explaining why we don't think barometric readings cause storms, and beyond. Invited lecture, Department of Psychology, Kwansai Gakuin University, Osaka. September, 2008.
- Cheng, P.W. From Hume and Kant to cognitive science. Invited lecture, graduate course on philosophy of science, UCLA School of Nursing, November, 2008.
- Cheng, P.W. Independent causal influence: Implications for causal reasoning, comparative psychology, and statistics. Invited lecture, Forum on Evolution, Philosophy, and Statistics, UC Irvine. March 2009.
- Cheng, P.W. A mental construct of causation for the coherent representation of an objective causal world. Annual Interdisciplinary Conference, Jackson Hole. February, 2009.
- Cheng, P.W. Explaining why barometric readings don't cause storms, and beyond. Annual Interdisciplinary Conference, Jackson Hole. February, 2010.
- Cheng, P.W. Applying causal learning to mathematical education. Annual Summer Interdisciplinary Conference, Caldes de Boi, Pyrenees, Spain. July, 2011.

- Cheng, P.W. A causal explanation of functional basic-level categories. Annual Interdisciplinary Conference, Breckenridge. February, 2012.
- Cheng, P.W., Liljeholm, M. & Sandhofer, C. How preschoolers' causal discovery and generalization can inform scientific causal inference. Invited paper in statistics conference. Spring Research Conference, UCLA. June 2013.
- Cheng, P.W., Liljeholm, M. & Sandhofer, C. Causal invariance in intuitive and scientific causal inference. Invited paper in workshop sponsored by the Max Planck Institute for Intelligent Systems, Germany. Causality: Perspectives from different disciplines, Vals, Switzerland. August, 2013.
- Cheng, P.W. Nature's Wisdom: Why Causal Discovery in Preschoolers can Inform Scientific Causal Inference. Invited colloquium, Institute for Mathematical Behavioral Sciences, University of California, Irvine. April, 2014.
- Cheng, P.W. & McGillivray, S. Analytic versus empirical knowledge of the concept of causal invariance. Annual Summer Interdisciplinary Conference, Moab, Utah. June, 2014.
- Cheng, P.W. & McGillivray, S. Analytic versus empirical knowledge of the concept of causal invariance. Annual Meeting of the Psychonomics Society, Long Beach. November, 2014.
- Cheng, P.W. Nature's wisdom: Why causal discovery in preschoolers can inform scientific causal inference. Invited colloquium, National Taiwan University, Taipei. January, 2015.
- Cheng, P.W. & Carroll, C.D. Causal invariance and the construction of causal knowledge, Annual Summer Interdisciplinary Conference, Mammoth Lakes. July, 2015.
- Cheng, P.W. Resolving explanations of moral dilemmas: Applications to principles governing autonomous vehicles. Annual Interdisciplinary Conference, Breckenridge. February, 2016.
- Cheng, P.W. Why causal invariance as an aspiration shapes our causal representation of the world. Annual Summer Interdisciplinary Conference, Selva di Val Gardena. July, 2016.
- Cheng, P.W. Why causal invariance shapes our causal representation of the world. Invited talk, International Conference on Thinking, Brown University, Rhode Island. August, 2016.
- Cheng, P.W. Analytic knowledge of causal invariance guides intuitive causal representations. Invited talk, Causal Inference Workshop, University of California, Los Angeles. September, 2017.
- Cheng, P.W. Is natural human causal learning rational? Invited talk, Causal Inference Symposium, University of California, Los Angeles. September, 2017.
- Cheng, P.W. A basic tenet in cognitive science fails to be carried through to research on causal cognition. Invited talk, Causal Cognition Conference, University of Chicago. July, 2018.

Cheng, P.W. Nature's Wisdom: Causal Induction in (representation-dependent) reality. Invited colloquium, Department of Psychology, University of California, Riverside. November, 2018.

Cheng, P.W. Nature's Wisdom: When Do Reasoners Generalize Which Type of Causal-integration Functions. Annual Summer Interdisciplinary Conference, Seefeld, Austria. June, 2019.

Bye, J. K., Chuang, P., Anthony, L. E. & Cheng, P. W. *Teaching the Purpose and Meaning of Algebraic Variables Through Systems-of-Equations Story Problems: Multimedia Approaches* [Poster Session]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/rzgobyl> (2020, Apr 17 - 21; conference canceled)

Bye, J. K., Chuang, P.-J., Anthony, L. E., & Cheng, P. W. Teaching the purpose and meaning of algebraic variables through systems-of-equations story problems: Multimedia approaches. Poster presented at the *14th International Conference of the Learning Sciences (ICLS) 2020* (virtual conference, June, 2020)
Available: <https://doi.org/10.22318/icls2020.1799>

Cheng, P.W. Revisiting Hume in the 21st century: Implications of inherently unobservable causal relations for inducing generalizable causal knowledge. Annual Summer Interdisciplinary Conference, Les Houches, France. June, 2020. (conference canceled)

Lee, J., Wong, E. F. & Cheng P.W. Promoting Pro-Climate Actions: A Cognitive-Constraints Approach. Poster presented at the *42nd Annual Conference of the Cognitive Science Society*, July, 2020. (virtual conference)