

Information

Biography

Biographical Statement

Valerie Reyna is Professor of Human Development and Psychology at Cornell University, Co-Director of the Cornell University Magnetic Resonance Imaging Facility, and a Co-director of the Center for Behavioral Economics and Decision Research. She is currently Past President of the Society for Judgment and Decision Making. Dr. Reyna holds a Ph.D. in experimental psychology from Rockefeller University. Her research encompasses human judgment and decision making, numeracy and quantitative reasoning, risk and uncertainty, medical decision making, social judgment, and false memory. She is a developer of fuzzy-trace theory, a model of the relation between mental representations and decision making that has been widely applied in law, medicine, and public health. Her recent work has focused on aging, neurocognitive impairment, and genetic risk factors (e.g., in Alzheimer's disease); rationality and risky decision making, particularly risk taking in adolescence; and neuroimaging models of framing and decision making. She has also extended fuzzy-trace theory to risk perception, numeracy, and dual processes in medical decision making by both physicians and patients. Dr. Reyna also teaches an undergraduate and a graduate seminar on Risk and Rational Decision Making.

Dr. Reyna has been elected a Fellow of the American Association for the Advancement of Science. She is also a Fellow of the Division of Experimental Psychology, the Division of Developmental Psychology, the Division of Educational Psychology, and the Division of Health Psychology of the American Psychological Association, and she is a Fellow of the American Psychological Society. Dr. Reyna has been a Visiting Professor at the Mayo Clinic, a permanent member of study sections of the National Institutes of Health, and a member on advisory panels for the National Science Foundation and the National Academy of Sciences.

Dr. Reyna was appointed Senior Research Advisor in the United States Department of Education, where she oversaw research grant policies and programs, and has also held leadership positions in organizations dedicated to equal opportunity for minorities and women, and on national executive and advisory boards of Centers and grants with similar goals, such as the Arizona Hispanic Center of Excellence, National Center of Excellence in Women's Health, and Women in Cognitive Science (supported by a National Science Foundation ADVANCE leadership award).

Dr. Reyna was appointed associate editor of *Psychological Science* and as an editorial board member of *Psychonomic Bulletin and Review*, leading journals in experimental psychology, and associate editor of *Developmental Review*, the

leading journal of literature review and theory in developmental psychology. Dr. Reyna has received many years of research support from private foundations and from U.S. government agencies, and currently serves as principal investigator of two National Institutes of Health grants.

Professional

Current Professional Activities

Associate Editor, *Developmental Review*

Editorial Board, *Psychological Science*, *Psychonomic Bulletin and Review*, *Journal of Experimental Psychology: Learning, Memory, & Cognition*, *Journal of Behavioral Decision Making*

Steering Committee, MacArthur Foundation's Group to Individual project

Roundtable and Advisory Committee, Research Center for Excellence in Clinical Preventive Services, University of North Carolina, Chapel Hill

Board of Scientific Advisors, Cornell Institute for Research on Children (a National Science Foundation research center).

Committee on Values Clarification for International Patient Decision Aids Standards

U.S. Food and Drug Administration Risk Communication Advisory Committee

Board on Behavioral, Cognitive, and Sensory Sciences, National Academies of Sciences.

Committee on the Science of Adolescence, National Academies of Sciences.

Editorial Advisory Board, Biennial Bronfenbrenner Conference Series.

National Advisory Board, Center for Learning and Human Development, Miami University.

Past Chair, Publications and Communications Board, American Psychological Association; Chair, Search Committees for Editors of *Psychological Bulletin*; *Developmental Psychology*, *Journal of Neuroscience*, *Psychology*, and *Economics*, *Journal of Experimental Psychology: Learning, Memory, & Cognition*.

Research

Current Research Activities

Organizer of Bronfenbrenner Conference, "[The Neuroscience of Risky Decision Making](#)" (click for video) and Editor of forthcoming book emerging from this conference to be published by APA.

Topics: Judgment and Decision Making; Risk and Rationality; False Memory; Aging and Cognitive Impairment; Cognitive Neuroscience.

Dr. Reyna's research focuses on dual processes in memory, judgment, and decision making, on how these processes change with age and expertise, and on their implications for risky decision making in law, health, medicine, and neuroscience. She is a developer, with another HD professor, Charles Brainerd, of fuzzy-trace theory, a theory of memory and its relation to higher cognitive processes.

Extension

Current Extension Activities

Department Extension Leader, Department of Human Development, Cornell University
Director of New York City, Broome County, and Central New York outreach programs for risk reduction in youth.

Education

Education

Ph.D. 1981 - Rockefeller University Experimental Psychology
B.A. 1976 - Clark University Psychology (Summa Cum Laude)

Courses

Courses Taught

Courses Taught (selected)

HD 4010 Independent Study, Department of Human Development, Cornell University
HD 4200 Laboratory in Risk and Rational Decision Making, Cornell University
HD 4250 Translational Research on Decision Making, Department of Human Development, Cornell University
HD 4990 Honors Thesis, Department of Human Development, Cornell University
HD 6020 Research on Risk and Rational Decision Making, Department of Human Development, Cornell University
HD 7000 Directed Readings, Department of Human Development, Cornell University
HD 7010 Empirical Research, Department of Human Development, Cornell University
HD 7030 Teaching Assistantship, Department of Human Development, Cornell University
HD 8990, Master's Thesis, Department of Human Development, Cornell University
HD 9990, Doctoral Thesis, Department of Human Development, Cornell University

Websites

Related Websites

[Search and Download Reyna Publications](#)

[Laboratory for Rational Decision Making](#)

[Risky Decision Making in Adolescents](#)

[Medical Decision Making](#)

[Workshop on Higher Cognition in Adolescents and Young Adults](#)

[Judgment, Decision Making, and Social Judgment Project](#)

[Human Development Today e-News](#)

[Human Development and Law Dual PhD/JD Degree program](#)

Administration

Administrative Responsibilities

Co-Director, Cornell University Magnetic Resonance Imaging Facility
Co-Director, Center for Behavioral Economics and Decision Research
Director, Laboratory for Rational Decision Making, Cornell University
Department Extension Leader, Department of Human Development, Cornell University
Executive Committee, 2009-2012 ISS Theme Project, Judgment, Decision Making, and Social Behavior

Publications

Selected Publications

Reyna, V.F., Chapman, S., Dougherty, M., Confrey, J. (2012) *The adolescent brain: Learning, reasoning, and decision making*. Washington DC: American Psychological Association.

Reyna, V.F. (2011). Risk perception and communication in vaccination decisions: A fuzzy-trace theory approach. *Vaccine*. Advance online publication. doi: 10.1016/j.vaccine.2011.11.070

Reyna, V. F., & Brainerd, C. J. (2011). Dual processes in decision making and developmental neuroscience: A fuzzy-trace model. *Developmental Review*, 31,180-206. doi: 10.1016/j.dr.2011.07.004

Reyna, V. F., Nelson, W., Han, P., & Dieckmann, N. F. (2009). How numeracy influences risk comprehension and medical decision making. *Psychological Bulletin*, 135, 943-973.

Lloyd, F. J., & Reyna, V. F. (2009). Clinical gist and medical education: Connecting the dots. *Journal of the American Medical Association*, 302(12):1332-1333.

Reyna, V. F. (2008). [A theory of medical decision making and health: Fuzzy-trace theory](#). *Medical Decision Making*, 28, 850-865.

Reyna, V.F. (2004). How people make decisions that involve risk. A dual-processes approach. *Current Directions in Psychological Science*. 13, 60-66.

Reyna, V.F., & Adam, M.B. (2003). Fuzzy-trace theory, risk communication, and

product labeling in sexually transmitted diseases. *Risk Analysis*, 23, 325-342.

Reyna, V. F., & Farley, F. (2006). [Risk and rationality in adolescent decision making: Implications for theory, practice, and public policy.](#) *Psychological Science in the Public Interest*, 7, 1-44.

Reyna, V.F., & Lloyd, F. (2006). Physician decision making and cardiac risk: Effects of knowledge, risk perception, risk tolerance, and fuzzy processing. *Journal of Experimental Psychology: Applied*, 12, 179-195.