

Caitlin Drummond Otten

School of Human Evolution and Social Change
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ACADEMIC HISTORY

Education

Ph.D., Behavioral Decision Research Carnegie Mellon University, Pittsburgh PA	2017
M.S., Behavioral Decision Research Carnegie Mellon University, Pittsburgh PA	2014
B.A., <i>summa cum laude</i> , Economics and English Minor: Psychology Phi Beta Kappa, Departmental Honors in Economics University of Pennsylvania, Philadelphia PA	2012

Research Interests

judgment and decision making | public understanding of science | scientific reasoning |
science communication | science literacy | motivated reasoning | trust | misinformation |
sustainability

Professional Experience

Assistant Professor, Decision Science School of Human Evolution and Social Change Arizona State University, Tempe AZ	2020- present
Postdoctoral Research Fellow Erb Institute for Global Sustainable Enterprise University of Michigan, Ann Arbor MI	2017- 2020

Section 1. RESEARCH

Publications

*Student co-author. First author is lead.

Drummond Otten, C., & Fischhoff, B. (2022). Assessing broader impacts of funded research: the US National Science Foundation v. Lamar Smith. *Science and Public Policy*, 49(2), 313-323.

*Cohen, A. S., *Lutzke, L., Drummond Otten, C., & Árvai, J. (2022). I Think, Therefore I Act: The Influence of Critical Reasoning Ability on Trust and Behavior During the COVID - 19 Pandemic. *Risk Analysis*, 42(5), 1073-1085.

*Larkin, C., Drummond Otten, C., & Arvai, J. (2022). Paging Dr. JARVIS! Will people accept advice from artificial intelligence for consequential risk management decisions? *Journal of Risk Research*, 25(4), 407-422.

Mascatelli, K., Drummond Otten, C., Piacentini, R. V., & Wong-Parodi, G. (2021). Comparisons of Sustainability Behaviors Pre-and Early Pandemic Among Botanical Garden Members. *Frontiers in Sustainable Cities*, 7.

York, A., Drummond Otten, C., BurnSilver, S., Neuberg, S. & Anderies, J.M. (2021). Integrating institutional approaches and decision science to address climate change: a multi-level collective action research agenda. *Current Opinion in Environmental Sustainability*, 52, 19-26.

Drummond, C., *Gray, S., Raimi, K.T., Wilson, R., & Arvai, J. (2020). Public Perceptions of Federal Science Advisory Boards Depend on Their Composition. *Proceedings of the National Academy of Sciences*, 117(37), 22668-22670.

Drummond, C., Siegrist, M. & Arvai, J. (2020). Limited effects of exposure to fake news on climate change. *Environmental Research Communications* 2(8), 081003.

Arvai, J., *Gray, S., Raimi, K.T., Wilson, R. & Drummond, C. (2020). Industry-dominated science advisory boards are perceived to be legitimate...but only if they recommend more stringent risk management policies. *Risk Analysis*, 40(11), 2329-2339.

Drummond, C., States, S. & Wong-Parodi, G. (2020). Factors Associated with the Adoption of Renewable Energy Amongst Botanical Garden Members. *Environmental Research Communications* 2(5), 051005.

Drummond, C. & Fischhoff, B. (2020). Emotion and Judgments of Scientific Research. *Public Understanding of Science* 29(3), 319-334.

Drummond, C. & Fischhoff, B. (2020). Predictors of Public Attitudes Toward Controversial Science 1979-1990. *Journal of Risk Research* 23(10), 1318-1335.

*Lutzke, L., Drummond, C., Slovic, P., & Arvai, J. (2019). Priming critical thinking: Simple interventions limit the influence of fake news about climate change on Facebook. *Global Environmental Change* 58, 101964.

Drummond, C. & Fischhoff, B. (2019). Does “putting on your thinking cap” reduce myside bias in evaluation of scientific evidence? *Thinking & Reasoning* 25(4), 477-505.

Drummond, C. & Fischhoff, B. (2017). Individuals with greater science literacy and education have more polarized beliefs on controversial science topics. *Proceedings of the National Academy of Sciences USA* 114(36), 9587-9592.

Drummond, C., & Fischhoff, B. (2017). Development and Validation of the Scientific Reasoning Scale. *Journal of Behavioral Decision Making* 30(1), 26-38.

Mellers, B., Fincher, K., Drummond, C. & Bigony, M. (2013). Surprise: a belief on an emotion? *Progress in Brain Research*, 202, 3-19.

Grants and Fellowships

Arizona State University Institute for Social Science Research Seed Grant. Title: Lay Understanding of Scientific Institutions. Budget: \$7634.06	2021
	2018
Carnegie Mellon University Center for Behavioral Decision Research Small Grant, \$2500 (co-I; PI: S. Anglin)	
National Science Foundation Doctoral Dissertation Research: Sophisticated Rejection of Scientific Evidence, \$14,999 (with B. Fischhoff)	2015-2017
National Science Foundation Graduate Research Fellowship	2014-2017
Qualtrics Behavioral Research Grant, \$3000	2015
Carnegie Mellon University Graduate Student Assembly/Provost’s Office Graduate Small Project Help Research Grant, \$750	2015
Phipps Conservatory and Botanical Gardens Science Communication Fellow	2015
Carnegie Mellon University Graduate Student Assembly/Provost’s Office Conference Funding, \$500	2014
Carnegie Mellon University Center for Behavioral Decision Research Small Grant, \$2500	2013

Research-Related Awards

- Honorable Mention, Science and Society Category, Student Poster Competition, **American Association for the Advancement of Science** Annual Meeting, for *Education, Science Literacy, and Polarized Beliefs About Science*, with B. Fischhoff 2017
- Winner, Decision Analysis and Risk Specialty Group Student Merit Award, **Society for Risk Analysis** Annual Meeting, for *Putting on Your Thinking Cap: Priming Scientific Reasoning Produces Critical but Biased Evaluations of Scientific Evidence*, with B. Fischhoff 2016
- Second Place, Student Poster Competition, **Society for Judgment and Decision Making** Annual Meeting, for *Putting on Your Thinking Cap: Priming Scientific Reasoning Produces Critical but Biased Evaluations of Scientific Evidence*, with B. Fischhoff 2016
- Second Place, Student Poster Competition, **Society for Judgment and Decision Making** Annual Meeting, for *Development and Validation of the Scientific Reasoning Scale*, with B. Fischhoff 2015

Invited Academic and Public-Facing Presentations

- 2021 *The Social Side of Sustainability*. Invited panelist for webinar in the USC Wrigley Institute for Environmental Studies Webinar Series. January 2021, remote.
- 2020 *What motivates firm-level climate action? Individual and situational factors* In, “The role of business in facilitating collective action on climate,” Organizer: Shauna BurnSilver, United Nations Global Compact, September 2020.
- 2019 *Downstream Consequences of Exposure to Climate Misinformation (with M. Siegrist and J. Arvai)*. Plenary presentation at the University of Michigan University-Wide Sustainability & Environment Conference, Ann Arbor MI.
- 2018 *Individuals with greater science literacy and education have more polarized beliefs on controversial science topics (w. B Fischhoff)*. Presented to the New York State Environmental Protection Bureau.
- 2017 *Lay Understanding of and Attitudes Toward Controversial Science*. Presented to the Dow Chemical Company, Midland MI.
- 2016 *Scientific Reasoning Ability and its Implications for Science Communication*. White paper presented at the University of Michigan Conference on How We Can Improve Health Science Communication, Ann Arbor MI.
- 2015 *Scientific Reasoning and the Reception of Scientific Evidence (w. B Fischhoff)*. Presented to the RAND Center for Decision Making Under Uncertainty, Pittsburgh PA.

Refereed Conference Presentations

*denotes graduate student author

Drummond Otten, C., Anglin, S., & Broomell, S. (2022, November). *Drawing Different Conclusions from the Same Evidence: Belief in Hydroxychloroquine During the COVID-19 Pandemic*. Poster presented at the meeting of the Society for Judgment and Decision Making, San Diego, CA.

Drummond Otten, C., Anglin, S., & Broomell, S. (2022, December). *Drawing Different Conclusions from the Same Evidence: Belief in Hydroxychloroquine During the COVID-19 Pandemic*. Paper presented at the meeting of the Society for Risk Analysis, Tampa, FL.

Cohen, A.S., Bearth, A., & **Drummond Otten, C.** (2022, December). *Risk perceptions, critical thinking, and acceptance of genome editing in the United States and Switzerland*. Paper presented at the meeting of the Society for Risk Analysis, Tampa, FL.

Drummond Otten, C., *Cohen, A.S., *Lutzke, L., & Arvai, J. (2022, February). *Social Norms, Individual Critical Thinking Skills, and Uptake of COVID-19 Preventative Behaviors*. Poster presented at the meeting of the Society for Judgment and Decision Making, virtual.

Drummond Otten, C., *Cohen, A.S., *Lutzke, L., & Arvai, J. (2021, June). *Social Norms, Individual Critical Thinking Skills, and Uptake of COVID-19 Preventative Behaviors*. Paper presented at the meeting of the Society for Risk Analysis, virtual.

*Lutzke, L., *Cohen, A.S., **Drummond Otten, C.** & Arvai, J. (2021, June). *Perceiving political polarization within the context of COVID-19 is associated with individuals' pandemic responses and attitudes in the U.S.* Paper presented at the meeting of the Society for Risk Analysis, virtual.

*Cohen, A.S., *Lutzke, L., **Drummond Otten, C.** & Arvai, J. (2021, December). *I Think, Therefore I Act: The Influence of Critical Thinking Ability on Trust and Compliance During the COVID-19 Pandemic*. Paper presented at the meeting of the Society for Risk Analysis, virtual.

*Lutzke, L., *Cohen, A.S., **Drummond Otten, C.** & Arvai, J. (2021, June). *Perceiving political polarization within the context of COVID-19 is associated with individuals' pandemic responses and attitudes in the U.S.* Paper presented at the meeting of the Society for Risk Analysis-Europe, virtual.

*Cohen, A.S., *Lutzke, L., **Drummond Otten, C.** & Arvai, J. (2021, June). *Sex Differences in COVID-19 perception and prevention in the United States*. Paper presented at the meeting of the Society for Risk Analysis-Europe, virtual.

Drummond, C., *Cohen, A.S., *Lutzke, L., & Arvai, J. (2020, December). *Reasoning about novel risks: How does scientific reasoning ability relate to behavioral and attitudinal responses to the COVID-19 pandemic?* Paper presented at the meeting of the Society for Risk Analysis, virtual.

***Sen, M., *Lutzke, L., Drummond, C. & Arvai, J. (2020, December). *Debating climate risk management on Twitter: The effect of explanatory depth and tone on judgments of information quality and policy support.* Paper presented at the meeting of the Society for Risk Analysis, virtual.**

***Cohen, A.S., *Lutzke, L., Drummond, C. & Arvai, J. (2020, December). *Actively Open-Minded Thinking, Risk Perceptions, & Behavioral Adherence during the COVID-19 Pandemic in the United States.* Paper presented at the meeting of the Society for Risk Analysis, virtual.**

Drummond, C., Siegrist, M. & Arvai, J. (2020, December). *Limited effects of exposure to fake news on climate change.* Paper presented at the meeting of the Society for Judgment and Decision-Making, virtual.

Anglin, S.M., Drummond, C. & Downs, J. (2020, February). *Readers Value Accuracy and Clarity in Science News, But Often Misinterpret Findings.* Poster presented at the meeting of the Society for Personality and Social Psychology, New Orleans, LA

Drummond, C., Siegrist, M. & Arvai, J. (2019, December). *Effects of exposure to fake news on climate change.* Paper presented at the meeting of the Society for Risk Analysis, Arlington, VA.

***Larkin, C.P., Drummond, C., & Arvai, J. (2019, December). *Paging Dr. Jarvis: Evaluating the acceptance of advice from an "A.I." vs. a human expert.* Paper presented at the meeting of the Society for Risk Analysis, Arlington, VA.**

***Gray, S., Drummond, C. & Arvai, J. *The influence of membership on the perceived legitimacy of risk management recommendations made by the EPA's science advisory board.* Paper presented at the meeting of the Society for Risk Analysis, Arlington, VA.**

Drummond, C., Anglin, S.M. & Broomell, S.B. (2019, November). *Do individuals selectively engage their analytical reasoning abilities?* Poster presented at the meeting of the Society for Judgment and Decision Making, Montreal, CA.

Anglin, S.M., Drummond, C. & Downs, J. (2019, November). *Readers Value Accuracy and Clarity in Science News, But Often Misinterpret Findings.* Poster presented at the meeting of the Society for Judgment and Decision Making, Montreal, CA.

Drummond, C., Anglin, S.M. & Broomell, S.B. (2019, August). *Do individuals selectively engage their analytical reasoning abilities?* Poster presented at the meeting of

the Subjective Probability, Utility, and Decision Making conference, Amsterdam, the Netherlands.

Anglin, S.M., Broomell, S.B. & **Drummond, C.** (2019, February). *Confirmatory vs. disconfirmatory hypothesis testing strategies*. Poster presented at the meeting of the Society for Personality and Social Psychology, Portland, OR.

Drummond, C. & Fischhoff, B. (2018, December). *Modeling the Relationship Between Emotional Responses to and Judgments of Scientific Evidence*. Paper presented at the meeting of the Society for Risk Analysis, New Orleans, LA.

*Lutzke, L., **Drummond, C.**, Slovic, P. & Arvai, J. (2018, December). *Can simple interventions help people identify fake news about climate change on Facebook?* Paper presented at the meeting of the Society for Risk Analysis, New Orleans, LA.

Drummond, C. & Fischhoff, B. (2018, November). *Dimensionality of Lay Judgments of Scientific Research*. Poster presented at the meeting of the Society for Judgment and Decision Making, New Orleans, LA.

Anglin, S.M., Broomell, S.B. & **Drummond, C.** (2018, November). *Confirmatory vs. disconfirmatory hypothesis testing strategies*. Poster presented at the meeting of the Society for Judgment and Decision Making, New Orleans, LA.

Drummond, C. & Fischhoff, B. (2018, October). *Modeling the Relationship Between Emotional Responses to and Judgments of Scientific Evidence*. Paper presented at the meeting of the Association for Consumer Research, Dallas TX.

Drummond, C., Argo, N. & Hebert, R. (2018, February). *Behavioral Influences on Clinician Decision Making in End-of-Life Situations*. Paper presented at the annual meeting of the Society of Behavioral Medicine, New Orleans LA.

Drummond, C. & Fischhoff, B. (2017, November). *Judgments of Scientific Evidence: The Role of Emotion and Scientific Reasoning Ability*. Poster presented at the meeting of the Society for Judgment and Decision Making, Vancouver, BC.

Drummond, C. & Fischhoff, B. (2017, June). *Individuals with Greater Science Literacy and Education Have More Polarized Beliefs on Controversial Science Topics*. Paper presented at the Cambridge Risk and Uncertainty Conference, Cambridge UK.

Drummond, C. & Fischhoff, B. (2017, February). *Education, Science Literacy, and Polarized Beliefs About Science*. Poster presented at the meeting of the American Association for the Advancement of Science, Boston MA. *Honorable Mention, Science and Society Category, Student Poster Competition*.

Drummond, C. & Fischhoff, B. (2016, December). *Putting on Your Thinking Cap: Priming Scientific Reasoning Produces Critical but Biased Evaluations of Scientific*

Evidence. Poster presented at the meeting of the Society for Risk Analysis, San Diego CA. *Winner, Decision Analysis and Risk Specialty Group Student Merit Award.*

Drummond, C. & Fischhoff, B. (2016, November). *Putting on Your Thinking Cap: Priming Scientific Reasoning Produces Critical but Biased Evaluations of Scientific Evidence*. Poster presented at the meeting of the Society for Judgment and Decision Making, Boston MA. *Second place winner, Student Poster Competition.*

Drummond, C. & Fischhoff, B. (2016, November). *Putting on Your Thinking Cap: Priming Scientific Reasoning Produces Critical but Biased Evaluations of Scientific Evidence*. Datablitz talk presented at the Society for Judgment and Decision Making Preconference on Debiasing Decision Makers, Questrom School of Business, Boston MA.

Drummond, C. & Fischhoff, B. (2016, August). *Development and Validation of the Scientific Reasoning Scale*. Paper presented at the International Conference on Thinking, Providence RI.

Drummond, C. & Fischhoff, B. (2016, May). *Predicting Public Reception of Scientific Evidence with the Scientific Reasoning Scale*. Poster presented at the annual meeting of the American Association for Public Opinion Research, Austin TX.

Drummond, C. & Fischhoff, B. (2015, November). *Development and Validation of the Scientific Reasoning Scale*. Poster presented at the meeting of the Society for Judgment and Decision Making, Chicago IL. *Second place winner, Student Poster Competition.*

Drummond, C. & Fischhoff, B. (2015, August). *Development and Validation of the Scientific Reasoning Scale*. Paper presented at the Subjective Probability, Utility and Decision Making Conference, Budapest, Hungary.

Drummond, C. & Fischhoff, B. (2015, August). *Predicting the Reception of Scientific Evidence: The Role of Scientific Reasoning Ability*. Poster presented at the Subjective Probability, Utility and Decision Making Conference, Budapest, Hungary.

Drummond, C. & Fischhoff, B. (2014, November). *A New Perspective on Scientific Literacy: Introducing the Scientific Reasoning Scale*. Poster presented at the meeting of the Society for Judgment and Decision Making, Long Beach CA.

Section 2. TEACHING AND MENTORING

Teaching Experience

Arizona State University

Instructor

ASB 500: Research Design for Social and Behavioral Sciences. Graduate level. Developed as a new course. Taught: Spring 2021; Spring 2022.

ASB 230: Beginning Social Research. Undergraduate level. Developed from previous syllabus. Taught: Fall 2022; Fall 2023.

Guest Lecturer:

Guest Lecturer, PAF 494/591: Pandemic public policy: science and politics. Arizona State University. Undergraduate level. Instructor: B. Bozeman. Taught: Fall 2020.

Guest Lecturer, ASM 300: Anthropological Sciences Seminar. Arizona State University. Undergraduate level. Instructor: M. Barton. Taught: Fall 2020.

Prior to Arizona State University

Instructor

Science Communication for Sustainability (EAS 501). University of Michigan. Graduate level. Developed as a new course. Taught: Fall 2019.

Guest Lecturer or Teaching Assistant:

Guest Lecturer, EAS 510: The Science and Practice of Social Change, University of Michigan. Graduate level. Instructor: V. Campbell-Arvai.

Guest Lecturer, HEB 1700: Human Evolutionary Biology in Society, Harvard University. Undergraduate level. Instructor: B. Alex.

Guest Lecturer, EAS 530: Decision-Making for Sustainability, University of Michigan. Graduate level. Instructor: J. Arvai.

TA, Policy Analysis 2 (macroeconomics for policy), Department of Social and Decision Sciences, Carnegie Mellon University. Undergraduate level. Instructor: C. Fong.

TA, Marketing I, Tepper School of Business, Carnegie Mellon University. Undergraduate level. Instructor: C. Olivola.

TA and Guest Lecturer, Empirical Research Methods, Department of Social and Decision Sciences, Carnegie Mellon University. Undergraduate level. Instructor: M. Cikara.

Student Supervision

Arizona State University:

Doctoral Students

1. Claborn, Kelly. Arizona State University School of Human Evolution and Social Change; Environmental Social Science. Committee Co-chair.
2. Hawley, Caitlin. Arizona State University School of Human Evolution and Social Change; Environmental Social Science. Committee Co-chair.
3. Whittaker, Dane. Arizona State University School of Sustainability; Sustainability. Committee member.
4. Ptacek, Alexandra. Arizona State University School of Human Evolution and Social Change; Anthropology. Committee member.
5. Gilchrist, Rachel. Arizona State University Department of Psychology. Committee member.
6. Lutzke, Lauren. University of Southern California Department of Psychology. Committee member.

7. Ram, Sherry Ann. University of Toronto Department of Civil and Mineral Engineering. Committee member.
8. Cohen, Alexandra Segrè. University of Southern California Department of Psychology; Psychology. Committee member. Graduated 2022.

Master's Students

1. Ramey, Alexandra. University School of Sustainability; Master's in Sustainability. Committee member. Graduated 2022.

Undergraduate Honors Thesis Students

1. Oricchio, Madeleine. Arizona State University School of Human Evolution and Social Change, Anthropology. Committee member.
2. Haagen, Jordan. Arizona State University School of Human Evolution and Social Change, Anthropology, and Herberger Institute School of Arts, Media and Engineering, Digital Culture; Barrett Honors College. Committee member. Graduated 2022.

Undergraduate Research Apprentices

1. Samuel Kniery (Fall 2022)
2. Miles Mcanulty (Spring 2022)
3. Alma Ruiz (Spring 2021)
4. Daanish Tung (Spring 2021)

Prior to ASU

Master's Students (Committee Member)

1. Sanghamitra Sen (University of Michigan; graduated 2021)
2. Connor Larkin (University of Michigan; graduated 2020)
3. Lauren Lutzke (University of Michigan; graduated 2019)

Undergraduate Research Assistants

- a. Hanna Droessler (University of Michigan)
- b. Jessica Chang (Carnegie Mellon University)
- c. Timothy Kusama (Carnegie Mellon University)
- d. Sasha Kerbel (Carnegie Mellon University)
- e. Lauren Montgomery (Carnegie Mellon University)
- f. Ke Ning (Carnegie Mellon University)
- g. Mark Saporta (Carnegie Mellon University)
- h. Crystal Song (Carnegie Mellon University)
- i. Tiffany Tse (Carnegie Mellon University)
- j. John Verser (Carnegie Mellon University)

Section 3. PUBLIC AND PROFESSIONAL SERVICE

Arizona State University, 2020- present

Personnel Committee, School of Human Evolution and Social Change, Arizona State University	2020-
Director Search Committee, School of Human Evolution and Social Change, Arizona State University	2022-2023

Ad Hoc Reviewer

Peer-Reviewed Journals:

Applied Cognitive Psychology, Behavior Research Methods, Climatic Change, Environmental Communication, Environmental Research Letters, Harvard Kennedy School Misinformation Review, International Journal of Psychology, International Journal of Public Opinion Research, Journal of Behavioral Decision Making, Journal of Cognitive Psychology, Journal of Experimental Psychology: Applied, Nature Communications, Personality and Social Psychology Bulletin, Psychonomic Bulletin & Review, Public Opinion Quarterly, Public Understanding of Science, Risk Analysis, Science Communication, Social Forces, Social Science Computer Review, Sociology of Religion

Grantmakers:

Israeli Science Foundation (2020); Social Sciences and Humanities Research Council of Canada (2022); United States National Science Foundation (2022)

Publishers:

Johns Hopkins University Press (2020)

Conferences:

Society for Risk Analysis (2021); Society for Judgment and Decision Making Student Poster Competition (2022)

Current Membership in Professional Societies

Society for Judgment and Decision Making; Society for Risk Analysis