# Stephen B. Broomell, Ph.D.

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Last edited: October 15, 2019

# Research Interests

Judgment and decision making; Uncertainty; Risk perception and communication; Information aggregation; Forecasting; Decision modeling methodology.

#### Education

2010	Ph.D.	Quantitative	Psychology,	University	of Illinois	at Urbana-	Champaign
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- 2007 M.A. Psychology, University of Illinois at Urbana-Champaign
- 2007 M.S. Statistics, University of Illinois at Urbana-Champaign
- 2004 B.S. double major in Mathematics and Psychology, The Ohio State University

# **Academic Positions**

Associate Professor	2018 -	present
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Department of Social and Decision Sciences, Carnegie Mellon University

 $\textbf{Assistant Professor} \qquad \qquad 2011-2018$ 

Department of Social and Decision Sciences, Carnegie Mellon University

Postdoctoral Research Fellow 2010 – 2011

College of Information Sciences and Technology, Pennsylvania State University

#### **Professional Service**

#### Editorial Board

Decision - American Psychological Association

2015 - present

### **External Committees**

Technical Advisory Committee

Consortium for Resilient Gulf Communities

2015 - 2017

Planning Committee

National Academies of Sciences Engineering and Medicane

2018

Exploring Medical and Public Health Preparedness for a Nuclear Incident: A Workshop

#### Carnegie Mellon University Departmental Committees

Graduate Education Committee Member	2016-present
Faculty Recruiting Committee Member	2016 - 2017

#### Conference Referee

Society for Judgment and Decision Making

2014, 2019

#### Journal Referee

American Political Science Review; Applied Cognitive Psychology; Cognition; Cognitive Science; Decision; Global Environmental Change; Journal of Experimental Psychology: Applied; Journal of Risk Research; Management Science; Medical Decision Making; Nature Climate Change; Operations Research; Perspectives on Psychological Science; PNAS; Psychological Methods; Psychological Review; Psychological Science; Risk Analysis; Social Psychology and Personality Science; Thinking and Reasoning

# Honors, Awards, and Fellowships

Next Generation of Hazards and Disasters Researchers Fellowship Sponsor: National Science Foundation	2014-2016
Intelligence Community (IC) Postdoctoral Research Fellowship Sponsor: National Geospatial-Intelligence Agency	2010–2011
Society for Multivariate Experimental Psychology Dissertation Award	2009
Invited participant at the Summer Institute on Bounded Rationality ABC Research Group Berlin, Germany	2008
Institutional National Research Service Award (NRSA) Pre-doctoral Fellow Sponsor: National Institutes of Health (NIH) Title: Quantitative Methods for Behavioral Research PI: Michel Regenwetter	2007–2008

#### Research Grants

Sponsor: National Oceanic and Atmospheric Administration Title: Lay Judgments of Environmental Cues that Signal a Tornado. Amount: \$150,000. Role: PI.	2016 - 2018
Berkman Faculty Development Grant, Carnegie Mellon University	2012-2014

# **Publications**

#### Journal Articles

Broomell, S. B., Sloman, S., Blaha, L. M., & Chelen, J. (2019). Interpreting Model Comparison Requires Understanding Model-Stimulus Relationships. Computational Brain & Behavior. https://doi.org/10.1007/s42113-019-00052-z.

Dewitt, B., Fischhoff, B., Davis, A. L., Broomell, S. B., Roberts, M., & Hanmer, J. (2019). Exclusion criteria as measurements I: Identifying invalid resposnes. *Medical Decision Making*, 39(6), 693-703.

Dewitt, B., Fischhoff, B., Davis, A. L., Broomell, S. B., Roberts, M., & Hanmer, J. (2019). Exclusion criteria as measurements II: Effects on utility and health policy implications. *Medical Decision Making*, 39(6), 704-716.

- Fischhoff, B. & Broomell, S. B. (In Press). Judgment and Decision Making. *Annual Review of Psychology*. https://doi.org/10.1146/annurev-psych-010419-050747.
- Silver, E., Broomell, S. B., Davis, A., White, D. & Krishnamurtim, T. (2019). Communicating a Prognosis: A Randomized Trial of Survival Rate Language. *Journal of General Internal Medicine*. DOI: 10.1007/s11606-019-05056-w.
- Broomell, S. B., Winkles, J.F., & Kane, P. B. (2017). The Perception of Daily Temperatures as Evidence of Climate Change. *Weather, Climate, and Society*, 9, 563-574.
- Broomell, S. B. & Kane, P. B. (2017). Public Perception and Communication of Scientific Uncertainty. *Journal of Experimental Psychology: General*, 146(2), 286-304.
- Harris, A., Por, H., & Broomell, S. B. (2017). Anchors and the Interpretation of the Intergovernmental Panel on Climate Changes Verbal Probability Expressions. *Climatic Change*, 140, 387-398.
- Dewitt, B., Fischhoff, B., Davis, A., & Broomell, S. B. (2015). Environmental risk perception from visual cues: Caution and sensitivity in evaluating tornado risks. *Environmental Research Letters*, 10(12), 124009.
- Davis-Stober, C. P., Budescu, D. V., Broomell, S. B. & Dana, J. (2015). The composition of optimally wise crowds. *Decision Analysis*. http://dx.doi.org/10.1287/deca.2015.0315.
- Broomell, S. B., Budescu, D. V., & Por, H. H. (2015). Personal experience with climate change predicts intentions to act. *Global Environmental Change*, 32, 67-73. DOI: 10.1016/j.gloenvcha.2015.03.001.
- Broomell, S. B. & Bhatia, S. (2014). Parameter Recovery for Decision Modeling Using Choice Data. *Decision*, 1, 252-274.
- Budescu, D. V., Por, H., Broomell, S. B. & Smithson, M. (2014). The Interpretation of IPCC Probabilistic Statements Around the World. *Nature Climate Change*, 4, 508-512.
- Budescu, D. V., Broomell, S. B., Lempert, R., & Keller, K. (2014). Aided and unaided decision making with imprecise probabilities. *EURO Journal on Decision Processes*, DOI: 10.1007/s40070-013-0023-4.
- Davis-Stober, C. P., Budescu, D. V., Dana, J., & Broomell, S. B. (2014). When is a crowd wise? *Decision*, 1, 79-101.
- R. H. Moss, G. A. Meehl, M. C. Lemos, J. B. Smith, J.R. Arnold, J.C. Arnott, D. Behar, G.P. Brasseur, S.B. Broomell, A. J. Busalacchi, S. Dessai, K. L. Ebi, J.A. Edmonds, J. Furlow, L. Goddard, H. C. Hartmann, J. W. Hurrell, J.W. Katzenberger, D.M. Liverman, P. Mote, S. C. Moser, A. Kumar, R. S. Pulwarty, E. A. Seyller, B. L. Turner, W. M. Washington, & T. J. Wilbanks (2013). Hell and High Water: Practice-Relevant Adaptation Science. *Science*, 342, 696-698.
- Roy, M. M., Liersch, M. J. & Broomell, S. B. (2013). People believe that they are prototypically good and bad.  $Organizational\ Behavior\ and\ Human\ Decision\ Processes,\ 122(2),\ 200-213.$  Doi: 10.1016/j.obhdp.2013.07.004.
- Smithson, M., Budescu, D. V., Broomell, S. B., & Por, H. (2012). Never say "not:" Impact of negative wording in probability phrases on imprecise probability judgments. *International Journal of Approximate Reasoning*, DOI:10.1016/j.ijar.2012.06.019.
- Broomell, S. B., Budescu, D. V., & Por, H. (2011). Pair-wise Comparisons of Multiple Models.

Judgment and Decision Making, 6, 821–831.

Budescu, D. V., Por, H., & Broomell, S. B. (2011). Effective Communication of Uncertainty in the IPCC Reports. *Climatic Change*. DOI: 10.1007/s10584-011-0330-3.

Broomell, S. B., & Budescu, D. V. (2009). Why are experts correlated? Decomposing correlations between judges. *Psychometrika*, 74 (3), 531–553.

Budescu, D. V., Broomell, S. B., & Por, H. (2009). Improving communication of uncertainty in the reports of the intergovernmental panel on climate change. *Psychological Science*, 20, 299–308.

### Refereed Conference Papers

Hibshi, H., Breaux, T., & Broomell, S. B. (2015, August). Assessment of Risk Perception in Security Requirements Composition. In 2015 IEEE 23rd International Requirements Engineering Conference (RE) (pp. 146-155). IEEE.

# Working Papers

Broomell, S. B. (R & R). Global-Local Incompatibility: The Misperception of Reliability in Judgment Regarding Global Variables. Submitted to *Cognitive Science*.

Kane, P. B. & Broomell, S. B. (under review). Applications of the Bias-Variance Decomposition to Human Forecasting. Submitted to *Journal of Mathematical Psychology*.

Drummond, C., Anglin, S., & Broomell, S. B. (R & R). Do individuals selectively engage their analytical reasoning abilities?. Submitted to *Judgment and Decision Making*.

Kane, P. B. & Broomell, S. B. (In Preparation). Investigating Lay Evaluations of Predictive Models.

Huang, S., Golman, R., & Broomell, S. B. (In Preparation). Getting more wisdom from the crowd: when weighting individual judgments reliably improves accuracy or just adds noise.

Broomell, S. B., Wong-Parodi, G., Morss, R., & Demuth, J. (In Preparation). The Reliability of Judgments of Season, Timing, and Source of Tornadoes in the American Southeast.

Broomell, S. B., Wong-Parodi, G., Morss, R., & Demuth, J. (In Preparation). Risk Perceptions of Tornadoes in the American Southeast: The Role of Experience and the Environment.

Ellerby, Z., Broomell, S. B., & Wagner, C. (In Preparation). Assessing the added value of a new interval-valued questionnaire response-format. Submitted to *Psychological Methods*.

Dryden, R., Morgan, M. G., & Broomell, S. B. (In Preparation). Lay Detection of Unusual Patterns in the Frequency of Hurricanes.

#### Work In Progress

Broomell, S. B., He, L., & Bhatia, S. (In Preparation). A numerical approach for evaluating correlations between parameter estimates.

Smithson, M. & Broomell, S. B. (In Preparation). Compositional Data Analysis: An Introudction and Survey.

Broomell, S. B., Moss, R., & Mearns, L. (In Preparation). Communicating Uncertain Climate

# Teaching Experience

Carnegie Mellon University. 2012–present

Social and Decision Science 88-251 Empirical Research Methods

Social and Decision Science 88-435/635 Decision Science and Policy

University of Illinois at Urbana-Champaign.

2008-2009

Psychology 406 Introductory Graduate Statistics I Psychology 407 Introductory Graduate Statistics II Psychology 235 Introductory Undergraduate Statistics

# Students Advised

Shu Huang - Masters Thesis

2019

Title: Getting More Wisdom from the Crowd: When Weighting Individual Judgments Reliably Improves Accuracy or Just Adds Noise

Department: Social and Decision Sciences

Patrick Kane - Doctoral Thesis

2017

Title: Investigating Lay Evaluations of Predictive Models

Department: Social and Decision Sciences

Caitlin Drummond - Doctoral Thesis

2017

Title: How Do Nonscientists Reason about Scientific Evidence? Development, Validation, and Application of the Scientific Reasoning Scale

Department: Social and Decision Sciences

Casey Canfield - Doctoral Thesis

2016

Title: Using Vigilance to Quantify Human Behavior for Phishing Risk

Department: Engineering and Public Policy

Barry Dewitt - Masters Thesis

2015

Title: Tornado Risk Perception from Visual Cues

Department: Engineering and Public Policy

Nathanial R. Peterson - Doctoral Thesis

2015

Title: A Behavioral Decision Research Approach to College Graduation Risk

Department: Social and Decision Sciences

Erin McCormick - Masters Thesis

2015

Title: Now Reverse Everything: Detecting Deception with a Response Conflict-Based Cognitive Load Manipulation

Department: Social and Decision Sciences

Patrick Kane - Masters Thesis

2014

Title: Clinical Versus Actuarial Forecasting: Predicting Errors with Local Estimators

Department: Social and Decision Sciences

Caitlin Drummond - Masters Thesis

2014

Title: How Capable are Laypeople of Assessing the Validity of Scientific Evidence? Development and Validation of The Critical Scientific Thinking Scale

Department: Social and Decision Sciences

Tamar Feigenbaum - Undergraduate Honors Thesis

2014

Title: Consumer Decision Making and Price Partitioning

Department: Social and Decision Sciences

Alycia Chin - Masters Thesis

2012

Title: The effect of readability on responses to probability questions

Department: Social and Decision Sciences

#### Invited Talks - Presenter in Boldface

**Broomell, S. B.** (2018). The Connection Between Uncertainty, Personal Experience, and Mitigation Intentions for Global Warming. Invited talk organized by Shereen Chaudhry at the University of Pennsylvania, Wharton Risk Management and Decision Processes Center: Philadelphia, PA.

**Broomell, S. B.** (2018). Studies of Uncertainty and Science. Invited talk organized by Neil Stewart at the University of Warwick for the Warwick Business School (WBS): Coventry, United Kingdom.

**Broomell, S. B.** (2018). Studies of Uncertainty and Science. Invited talk organized by Christian Wagner at the University of Nottingham Department of Computer Science: Nottingham, United Kingdom.

**Broomell, S. B.** (2018). *Studies of Uncertainty and Science*. Invited talk organized by Adam Harris at the University College London Department of Experimental Psychology: London, United Kingdom.

**Broomell, S. B.** (2018). The Perception of Daily Temperatures as Evidence of Climate Change. Invited talk organized by Edward Cokely at the University of Oklahoma Department of Psychology: Norman, Oklahoma.

**Broomell, S. B.** (2016). Risk Perception and Communication. Invited talk for the Executive Short Course: Risk, Network Analysis, and Geopolitics organized by Kiron Skinner, Director of the Institute for Strategic Analysis: October, Washington D.C.

**Broomell, S. B.**, Budescu, D. V., Por, H. (2016). *Personal Experience with Climate Change Predicts Intentions to Act.* Invited talk organized by Robin Dillon at Georgetown University McDonough School of Business: Washington D.C.

**Broomell, S. B.** (2016). Risk Perception and Communication. Invited talk for the Executive Short Course: Decision Science, Risk, and Network Analytics organized by Kiron Skinner, Director of the Institute for Strategic Analysis: May, Washington D.C.

**Broomell, S. B.** (2015). *The Psychology of Meteorology*. Invited talk organized by Robert Ryan at the 43rd Conference on Broadcast Meteorology and the 3rd Conference on Weather Warnings and Communication: Raleigh, NC.

**Broomell, S. B.** (2015). Risk Perception and Communication. Invited talk for the Executive Short Course on Risk organized by Kiron Skinner, Director of the Institute for Strategic Analysis:

October, Washington D.C.

- Broomell, S. B. (2014). Risk communication under uncertainty: Climate Change. Invited talk presented at the 13th Annual Social Equity Leadership Conference: Pittsburgh, PA.
- **Broomell S. B.** (2013). The Psychology of Risk Communication. Invited talk presented at the Center for Advancing Risk Assessment Science and Policy: Washington, D.C.
- **Broomell, S.** (2012). Methods for Communicating Uncertainty: Levels of Confidence vs. Numerical Ranges. Invited talk presented at the meeting on Science for Climate Change Adaptation at the Aspen Global Change Institute: Aspen, CO. Organized by John Katzenberger, Richard Moss, & Jerry Meehl.
- **Broomell, S.**, & Budescu, D. V. (2009). Why are Experts Correlated? Understanding Inter-Judge Correlations. Invited talk presented at the University of Illinois Department of Psychology: The Knowledge for All Lecture Series. Organized by David Irwin & Alejandro Lleras.
- Budescu, D. V., & Broomell, S. B. (2005). The effects of presentation format and decision aids on decisions under deep uncertainty. Invited presentation at the Meeting on Abrupt Climate Change: Aspen Global Change Institute.

# Competitive Conference Talks - Presenter in Boldface

- **Broomell, S. B.**, He, L., & Bhatia, S. (2019). A numerical investigation of parameter correlations in choice models. Talk presented at Subjective Probability, Utility, and Decision Making: Amsterdam, The Netherlands.
- **Broomell, S. B.** (2019). Global-Local Incompatibility: The Misperception of Reliability in Judgment Regarding Global Variables. Talk presented at the Society for Mathematical Psychology: Montreal, Canada.
- **Huang, S.**, Golman, R., & Broomell, S. B. (2019). Getting More Wisdom from the Crowd: When Weighting Individual Judgments Reliably Improves Accuracy or Just Adds Noise. Talk presented at the 14th Tinbergen Institute Conference: Bayesian Crowd. Rotterdam, Netherlands.
- **Broomell, S. B.**, Winkles, J. F., & Kane, P. B. (2017). *The Perception of Daily Temperatures as Evidence of Climate Change*. Talk presented at Subjective Probability, Utility, and Decision Making 26: Haifa, Israel.
- Kane, P. & Broomell, S. B. (2015). Predicting Clinical Forecasting Errors with Local Estimators. Talk presented at the Society for Judgment and Decision Making: Chicago, IL.
- **Broomell, S. B.**, Budescu, D. V., Por, H. (2015). Personal Experience with Climate Change Predicts Intentions to Act presented as part of the Psychological Responses to Climate Change Symposium. Talk presented at the Association for Psychological Science 27th Annual Convention: New York, NY.
- **Davis-Stober, C. P.**, Budescu, D. V., Dana, J., & Broomell, S. B. (2014). When is a crowd wise? Talk presented at the Collective Intelligence Conference: Cambridge, MA.
- **Broomell, S. B.** & Bhatia, S. (2013). Parameter Recovery for Decision Modeling Using Choice Data. Talk presented at the Society for Judgment and Decision Making: Toronto, Canada.

- **Budescu, D. V.**, Por, H., Broomell, S., & Smithson, M. (2013). A cross-national study of uncertainty and perceptions of global climate change. Talk presented at the Society of Multivariate Experimental Psychology: St. Petersburg, FL.
- **Broomell, S. B.** & Bhatia, S. (2013). Parameter Recovery for Decision Modeling Using Choice Data. Talk presented at Subjective Probability, Utility, and Decision Making 24: Barcelona, Spain.
- **Broomell, S. B.**, Budescu, D. V., & Por, H. (2013). *Predicting mitigation action: A cross-national analysis*. Talk presented at Subjective Probability, Utility, and Decision Making 24: Barcelona, Spain.
- Budescu, D. V., Por, H., Balassiano, M., Barbopoulos, I., Broomell, S., Fuller, J., Gonzalez-Vallejo, C., Hadar, L., Hansla, A., Hoelzl, E., Hichy, Z., Juanchich, M., Maydeu-Olivares, A., Nakamura, K., Onkal, D., Sirota, M., Smithson, M., Sokolowska, J., Villejoubert, G., & Witteman, C. (2013). The 2012 cross-national study of uncertainty and perceptions of Global Climate Change. Talk presented at Subjective Probability, Utility, and Decision Making 24: Barcelona, Spain.
- **Broomell, S.**, Budescu, D. V., & Por, H. (2012) The Impact of Beliefs, Ideology, and Understanding of Climate Change on Mitigation Action. Talk presented at the Society for Judgment and Decision Making: Minneapolis, MI.
- Smithson, M., Budescu, D. V., Broomell, S. B., & Por, H. (2011) Never Say "Not": Impact of Negative Wording in Probability Phrases on Imprecise Probability Judgments. Talk presented at the Seventh International Symposium on Imprecise Probability: Theories and Applications: Innsbruck, Austria.
- **Por, H.**, Budescu, D. V., & Broomell, S. B. (2010). Effective Communication of Uncertainty in the Intergovernmental Panel on Climate Change (IPCC) Reports. Talk presented at the Society for Judgment and Decision Making: St. Louis, MO.
- **Broomell, S. B.**, Por, H., & Budescu, D. V. (2009). *Understanding of Global Climate Change: Beliefs vs. Actions*. Talk presented at the Society for Judgment and Decision Making: Boston, MA.
- Budescu, D. V. & Broomell, S. B. (2008). Why are Experts Correlated? Decomposing Interjudge Correlations. Talk presented at Behavioral Decision Research in Management Conference: San Diego, CA.
- **Broomell, S.**, & Budescu, D. V. (2007). Why are Experts Correlated? Understanding Inter-judge Correlations. Talk presented at the Society for Judgment and Decision Making: Long Beach, CA.
- Budescu, D. V., Broomell, S., **Lempert, R.**, & Keller, K. (2007). Effects of Presentation Format on Judgments and Decisions Under Deep Uncertainty. Talk presented at the Society for Judgment and Decision Making: Long Beach, CA.
- **Budescu, D. V.** & Broomell, S. B. (2007). Why are Experts Correlated? Decomposing Interjudge Correlations. Talk Presented at annual meeting of the Society of Multivariate Experimental Psychology: Chapel Hill, NC.
- **Broomell, S. B.**, & Budescu, D. V. (2007). Why are Experts Correlated? Understanding Inter-Judge Correlations. Talk presented at the Society for Mathematical Psychology: Irvine, CA.
- Budescu, D. V., **Broomell, S. B.**, Lempert, R., & Keller, K. (2007). *Decisions with Imprecise Probabilities: Confronting models with data*. Talk presented at Subjective Probability, Utility, and Decision Making 21: Warsaw, Poland.

Budescu, D. V., Broomell, S., **Lempert, R.**, & Keller, K. (2007). Effects of Presentation Format on Judgments and Decisions Under Deep Uncertainty. Talk presented at the Society for Judgment and Decision Making: Long Beach, CA.

# Non-competitive Poster Presentations - Presenter in Boldface

- Drummond, C., Anglin, S., & Broomell, S. (2019). *Do individuals selectively engage their analytical reasoning abilities?* Poster presented at Subjective Probability, Utility, and Decision Making: Amsterdam, The Netherlands.
- Ellerby, Z., McCulloch, J., Broomell, S. & Wagner, C. (2019). The added-value of interval-values capturing individual response uncertainty. Poster presented at the Society for Mathematical Psychology: Montreal, Canada.
- Huang, S., Golman, R. & **Broomell, S. B.** (2019). Getting More Wisdom from the Crowds: When Weighting Individual Judgments Reliably Improves Accuracy or Just Adds Noise. Poster presented at the Collective Intelligence Conference: Pittsburgh, PA.
- Kane P. & Broomell, S. B. (2018). Application of the Bias-Variance Decomposition to Human Forecasting. Poster presented at the Society for Judgment and Decision Making: New Orleans, LA.
- **Anglin, S.**. Broomell, S.B., Drummond, C. (2018). *Confirmatory vs. Disconfirmatory Hypothesis Testing Strategies*. Poster presented at the Society for Judgment and Decision Making: New Orleans, LA.
- **Broomell, S. B.**, Moss, R., & Mearns, L. (2016). An Empirical Test of Communicating Uncertain Geographic Climate Projections. Poster presented at the Society for Judgment and Decision Making: Boston, MA.
- **Broomell, S. B.**, Winkles, J.F., & Kane P. (2015). *The Perception of Daily Temperatures as Evidence of Climate Change.* Poster presented at the Society for Judgment and Decision Making: Chicago, IL.
- **Dewitt, B.**, Fischhoff, B., Davis, A. & Broomell, S. B. (2015). *Tornado Risk Perception from Visual Cues*. Poster presented at the Society for Judgment and Decision Making: Chicago, IL.
- **Broomell, S. B.**, & Kane P. (2013). *Public Perception of Scientific Uncertainty*. Poster presented at the Society for Judgment and Decision Making: Toronto, Canada.
- **Broomell, S. B.**, Budescu, D. V., & Por, H. (2011). *Pair-wise comparisons of multiple decision models*. Poster presented at the Society for Judgment and Decision Making: Seattle, WA.
- **Broomell, S. B.** & McGill, W. (2011). A Social Network Simulation of Information Overlap and Confidence in Intelligence Correspondence. Poster presented at the 11th Annual Intelligence Community Postdoctoral Research Fellowship Colloquium: Washington D.C.
- **Broomell, S. B.** (2010). Sampling Processes in Experience Based Decision Making. Poster presented at the Society for Judgment and Decision Making: St. Louis, MO.
- **Broomell, S. B.**, Budescu, D. V., & Por, H. (2009). Attitudes Toward Global Climate Change. Poster presentation at Planet U: The Human Story of Climate Change: Urbana-Champaign, IL.

- Broomell, S. B. & Budescu, D. V. (2008). Comparing Individual and Group Level Parameters of Choice Models. Poster presentation at the Society for Judgment and Decision Making: Chicago, IL.
- **Shaffer, V. A.**, Templin, S., Broomell, S. B., & Hulsey, L. (2008). *Perceptions of physicians using diagnostic support systems*. Poster presented at Society for Medical Decision Making: Philadelphia, PA.
- **Broomell, S. B.**, & Budescu, D. V. (2006). *Exploring Imprecise Probabilities*. Poster presented at the Society for Judgment and Decision Making: Houston, TX.
- **Arkes, H. R.**, Shaffer, V. A., White, R., Broomell, S. B., Avner, N., & Anthony, E. (2004). *Debiasing the sunk cost effect by 'punctuating' mental accounts.* Poster presented at the Society for Judgment and Decision Making: Minneapolis, MN.
- **Shaffer, V. A.**, Arkes, H. R., White, R., Broomell, S. B., Avner, N., Starrmann, A., Braun, A., & Anthony, E. (2004). *Preference reversals in cash versus non-cash incentives*. Poster presented at the Society for Judgment and Decision Making: Minneapolis, MN.